AN ESSAY ON FEVERS.

To which is now added,

A DISSERTATION

ON THE

Malignant, Ulcerous SORE-THROAT.

The THIRD EDITION.

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PREFAC



BOUT ten Years ago I publiſhed a ſmall Volume of Obſervations on the Air, and epidemic Diſeaſes, from the Year 1727 to the End of 1737; and I have now finiſhed another Volume of like Obſervations, from 1738 to 1747 incluſive: In the latter, I think, I have been ſomewhat more careful and exact in the Hiſtory of the reigning Diſeaſes, and the Method of Cure.— However, as it would have been too great an Interruption to the Series of the Obſervations, to have entered into particular Diſquiſitions on the Nature and Cure of the ſeveral Diſeaſes, there curſorily mentioned, I have reſerved them for the following Eſſays; in which my Way of thinking and acting as to Fevers in general, and thoſe ſpecified in particular, will more fully appear: And this, I hope, will be of ſome Service to the younger Practitioners, as theſe Eſſays are the Reſult of a pretty large and long Experience, and the Obſervations were made

with the utmoſt Care and Diligence.—Whatever be the Event, I flatter myſelf they will be received as the honeſt Endeavours of a ſincere Well-wiſher, not only to his Profeſſion, but to all Mankind.

In the following Eſſays I have frequently referred to both the Volumes of Obſervations, and in the latter Volume often referred to theſe Eſſays; ſo that, by theſe Means, I have endeavoured mutually to illuſtrate both the one and the others.

Though I have all along ſtrictly kept cloſe to Facts and repeated Experience, (and where I have reaſoned from theſe, I have aimed at the juſteſt Analogy); yet I have ſupported my Doctrine and Practice very frequently by the Authority of the Ancients, particularly *Hippocrates*.—And this I have the rather done, as well knowing of what great Uſe they were to me in the Courſe of my Studies and Practice; and alſo with a View of recommending their frequent Peruſal to young Phyſicians.—But although my Advice perhaps, in this Matter, may have no great Weight; yet I hope, the concurrent Judgment of the greateſt Maſters in our Profeſſion will be duly regarded.

I will not take upon me to ſay, a Perſon cannot be a good Phyſician without conſulting that great Oracle of Phyſic, and reading the Ancients; but this let me ſay, He will make a much better Phyſician for ſo doing: And I believe, few, if any, ever made any conſiderable Figure in the Profeſſion, who had not ſtudied them.—Indeed *Hippocrates* hath been accounted the very Father of Phyſic, and the Plan, which he laid down, as the *Baſis* of all true and ſolid Medicine: And it hath been conſtantly held in the higheſt Veneration by all his Succeſſors, at leaſt by all thoſe, who were capable Judges of the Matter.—The Reaſon of which is evidently this, that he ſtudied Nature with the greateſt Care and Aſſiduity, and copied and followed her too with the greateſt Exactneſs; ſo that his Obſervations have been found perfectly juſt through all ſucceeding Ages.

It is not in Phyſic only, but in ſeveral other Arts, that the Study of the Ancients is of the utmoſt Advantage, and is univerſally acknowledged to be ſo.—Whoever would excel in Poetry, Sculpture, Statuary, *&c.* muſt always conſult the Works of the ancient Maſters in theſe reſpective Arts, as the moſt perfect Models, and moſt juſt Copiers of Nature; and it

is not in Poetry only, but in Phyſic alſo, that *Horace*'s Advice is good:

> ——— —— *Vos exemplaria Græca*
> *Nocturna verſate manu, verſate diurna.*

In Truth the Ancients were not only Men of vaſt Genius, but of the greateſt Diligence and unwearied Application (the *Roman* Hiſtorians have always in the Character of their great Men *incredibilis induſtria, diligentia ſingularis)*; who kept their Eyes ſteadily fixed on what they would deſcribe, and gave us the true Picture and naked Truth of Things; which is infinitely more beautiful than all the affected Daubing and Flouriſhes of a modern luxuriant Imagination: The more juſt the Deſcription, always the more excellent: What is a Portrait good for, that is not like the Original? — As Nature herſelf, the more accurately viewed, is the more admired; ſo he that gives us the trueſt Copy of her Face, will ever be deemed the greateſt Maſter. In this *Hippocrates* ſo greatly excelled, that he had the united Applauſe of the Nations around him, nay they even paid him divine Honours; for by this he was enabled to heal, as well as to know and deſcribe Diſeaſes. — I am fully perſuaded, had his Method been ſtrictly followed by ſucceeding Phyſicians, the Art of Healing would have

long ere this Time been carried to a much greater Height than it is at preſent: Which hath by no Means kept Pace with the many and great Diſcoveries, that have been made ſince (eſpecially within this and the laſt Century) in Natural Philoſophy, Anatomy, the *Materia medica*, and Chemiſtry.—Indeed as Man is by Nature mortal, it is impoſſible that Art can make him immortal: but ſurely it is very poſſible it may ſupply ſomething more exact and determinate than we have at preſent.

From the Days of *Galen*, and indeed long before, vain *Hypotheſis*, the Love of Novelty, the Faſhion and Faction of Phyſic too often led its Profeſſors devious, and attached them to Error; and, it is too well known, the ſame Misfortunes ſtill attend us. However it muſt be acknowledged, that all the ſober, regular, judicious Practice hath been always conſonant to the *Hippocratic* Doctrine; as hath been ſhewn at large by the learned Dr. *Barker* in his late Eſſay, to which I refer the Reader, and to Dr. *Glaſs*'s ingenious Commentaries for a Scheme of the Practice of *Hippocrates*.

I am ſo far from blaming a rational Theory in Phyſic, that I think it the *Baſis* of all juſt and regular Practice; but then it ſhould be,

as *Hippocrates* adviſeth, Κατὰ φύσιν Θεωρέων *.— If ever Phyſic is to be improved, it muſt be in ſuch a Manner, and not by *chimerical Hypotheſes*, nor raſh unwarrantable Quackery.— A diligent Study of the Ancients therefore, and a thorough Acquaintance with the Laws of the animal Œconomy, as rationally delivered by ſome of the Moderns, ſhould be the Buſineſs of every Phyſician.—But ſome are more expeditiouſly popped into the World.— To be the Favourite of a great Man, (or, what is rather better, of a great Woman) to be the Tool or Fool of a Party with a ſplendid Equipage, and no ſmall ſhare of Aſſurance; theſe are Qualifications, which finiſh the Doctor, to the Reproach of the Profeſſion, and the Danger of the Society.

Celſus hath been juſtly ſtiled the *Latin Hippocrates*, not only as having tranſlated an infinite Number of Paſſages from the divine old Man into his Works, but alſo as having generally followed his Method and Medicine.—His *Latinity* is moſt elegant, his Phyſic and Surgery ſurpriſingly juſt †.

No

* *De Vict. acut. Sect.* xlvi. *Edit. Lindeni.*

† Although I am far from thinking that *Celſus* was a Practitioner of Phyſic, in the common Senſe of the Words, as *Aſclepiades*, *Themiſon*, and *Caſſius* were; yet he had certainly well ſtudied it, and diligently peruſed the moſt conſi-

No one hath more closely followed *Hippo-*
crates

considerable and best Authors then extant in Physic and Surgery — chiefly, perhaps, as a Philosopher, who made the whole Study of Nature his Business, like the Sages of old, by whom, as *Celsus* himself says,— "*medendi Scientia* "*Sapientiæ Pars habebatur, ut et Morborum Curatio et Re-* "*rum Naturæ Contemplatio sub iisdem Auctoribus nata sit* — "*ideoque multos ex Sapientiæ Professoribus peritos ejus fuisse* "*accepimus.*" — And therefore *Columella* very justly stiles him *universæ Naturæ Vir prudens* — for indeed he not only wrote of Medicine, but of Agriculture, the Diseases of Cattle, *&c.*

That he was even conversant in the Practice of Physic and Surgery is pretty evident from his Books *de Medicina*, in which he gives a very judicious Account of Diseases, and the Method of Curing them, and very exact and particular Directions in Chirurgical Operations, even to the minutest Circumstances of Dressing and Bandages; insomuch that it seems very probable, that he actually performed himself, or, at least, had been very often present at such Operations.

Besides, he appears to have been very well acquainted with the *Materia Medica*, and Method of Composition, and hath carefully laid down particular Directions relating thereto, and a precise Account of the Weights, and their Subdivisions, by which he would have the Medicines compounded.

It may be said indeed, that he compiled the chief Part of this Work from the most celebrated Authors that preceded him—unquestionably he did so; but then he hath, in very many Places, interposed his own Advice and Opinion, and that too very often contrary to the Sentiments
and

crates than * *Aretæus Cappadox*, ſo far as to have affected his very Words and Stile :—His Deſcriptions

and Directions of his moſt favourite Authors, *Hippocrates* and *Aſclepiades*.

Upon the whole I cannot but think the attentive Reader will find in *Celſus* a great Number of Paſſages, which will incline him to believe that that Author was very well verſed in the Practice of Phyſic and Surgery.—Several ſuch the learned Dr. *James Grieve* hath cited in the Preface to his Tranſlation of *Celſus*—and I beg Leave to point out a great many more; but, to avoid being tedious, ſhall only ſet down the Numbers of the Pages in *Almeloveen*'s Edition of *Celſus* (with which the *Paduan*, publiſhed by *Vulpius*, 1722, exactly tallies) where Paſſages to this Pnrpoſe may be found:—had it been neceſſary, I could have added many more.

Page 4—19—26—29—30—81—89—90—91—96—111—122—129—140—144—150—152—159—165—176—181—194—197—200—204—227—230—232—242—249—263—271—296—318—332—338—360—364—393—405—406—408—409—416—426—440—441—446—458—475—477—509—512—517—528—530—546.

* It is pretty ſurpriſing that none ſhould take Notice of *Aretæus* before *Aëtius Amidenus*, in the fifth Century; (he is indeed named in the *Euporiſta* attributed to *Dioſcorides*, but few think that Piece to be the genuine Work of that Author:) Neither *Galen*, *Cælius Aurelian*, nor *Oribaſius* mention him; though ſo particular in enumerating all the Phyſicians of Note, antecedent to, or cotemporary with them. —And yet *Aretæus* ſeems to have been a very conſiderable Practitioner, and a Man of great Learning and Judgment:—He

Descriptions of Diseases are admirable, and his Method of Cure greatly judicious.

Galen

He affects a very singular Stile, using many obsolete Words, *Homeric* and *Hippocratic Phrases*, and the *Ionic Dialect*; which, at the Time he wrote in, was almost intirely disused: For, notwithstanding the Conceit of *Vossius*, he undoubtedly did not write till after the Time of *Nero*.——All this one would think should have made him remarkable; especially if he practised in, or near *Rome*; which is not improbable, as he advises *Roman* Wines to the Sick; particularly the *Falernian*, *Surrentine*, *Signine*, and those of *Fundi*.

But further, *Galen* and *Aëtius* quote from *Archigenes* several Passages, which are exactly the same, as to Sense, Doctrine, Method of Cure, and Manner of Expression, with what we find in *Aretæus*; only the latter gives them the *Ionic* Turn.—— They both coincide in recommending some particular Medicines, which are scarce to be met with in any others, particularly the external Use of *Cantharides*; which I think is not to be found in any preceding Author, except *Celsus*.

Did *Archigenes* then borrow from *Aretæus*, or the latter from the former?

It is certain, *Archigenes* practised at *Rome* with a very great Reputation, was a very celebrated Physician and Author, and as such is referred to by *Juvenal*, *Galen*, *Cælius*, *Oribasius*, *Aëtius*, &c.—He is strictly criticised by *Galen*, sometimes censured, sometimes commended, but never reckoned a mere Compiler.—*Aretæus* on the contrary is mentioned by none but *Aëtius* and *Paulus Ægineta*; nay, which is not a little to be wondered at, he is not so much as found in *Photius's Bibliotheca*.—This is really strange, and not easily accounted for, and would incline one to think that *Aretæus* borrowed from *Archigenes*; or rather transcribed and new-modelled him, giving him the *Hippocratic Diction* and *Ionic Dialect*.—

Galen ſhould be read by all that would conſult the moſt laboured and exact *Commentator* upon *Hippocrates*: Beſides he abounds with an immenſe Number of fine and uſeful Obſervations in all Parts of Phyſic, and was the firſt that gave us any particular Account of the Pulſes, their Difference and Signification: It is Pity there is ſo much of the *Peripatetic* and *Periphraſtic* in him. The World would probably receive a judicious Abridgment of his Works with no ſmall Satisfaction.

Had *Cælius Aurelianus* written in the Stile of *Celſus*, he would have been an invaluable Author.—As it is, we are vaſtly indebted to him, for the whole Doctrine of the *Methodiſts*, particularly of the judicious *Soranus*; as well as for the Sentiments of the Ancients on very many Diſorders, which otherwiſe would have been wholly loſt to us. — Notwithſtanding his

alect.—Poſſibly *Aretæus* might do by *Archigenes* ſomething like what *Cælius Aurelian*, not long after, did by *Soranus*: But, if ſo, he hath vaſtly much better *græciſed Archigenes*, than *Cælius* hath *latiniſed* (as he calls it) *Soranus*.—Upon this Suppoſition we need not wonder at finding the *Roman Wines* recommended in *Aretæus*, though he might practiſe and write in *Cappadocia*, or any where elſe, at the greateſt Diſtance from *Rome*.— But theſe are my poor Conjectures. —Be the Matter as it will, in *Aretæus* we have a moſt valuable Work, a moſt accurate Deſcription of Diſeaſes, and in general a very proper and judicious Method of Cure; and it is greatly to be lamented, that the Work comes ſo maimed to us.

Barbariſms,

Barbarisms, his Description of Diseases is most just and admirable.

One of the Ancients more I would particularly recommend, and that is *Alexander of Trallis*, who in most Things indeed follows *Hippocrates* and *Galen*, and generally gives them the Epithet of θειότατοι: But yet he hath an infinite Number of useful Remarks of his own, abounds with many excellent Medicines, and writes in a very judicious and regular Manner.

In the following Essays I have not so much aimed at a particular and methodical Dissertation on the Diseases treated of, as to give a few Hints and necessary Observations as to their Nature and Cure; for this would have made the Work voluminous, which I fear is even now not a little tedious.

I have given few or no *Formulæ*, or *Prescriptions*; for, as *Hippocrates* says, he that knows the Disease, knows what is proper to cure it.——When a Physician knows whether Stimulants or Anodynes, Relaxants or Restringents, Attenuants or Incrassants are indicated; he can be at no great loss how to serve himself of proper Drugs, out of the vast *Materia medica*, which we at present abound with.——He should select a few of the most effectual for his Use of each Sort, and stick to them, and not run into the immense *Farrago*, which some are so fond of: By so doing he will soon

be acquainted with their real Virtues and Effects, and readily diſtinguiſh between the Symptoms of the Diſeaſe, and thoſe cauſed by the Medicines; which is a thing many Times of no ſmall Importance.——I have really ſeen in private Practice, and ſome publick Writings, ſuch a jumble of Things thrown together in one Preſcription, that it would have puzzled *Apollo* himſelf to know what it was deſigned for: — Not but that there are frequently ſuch *Complications* (and *Contra-indications* too ſometimes) in Diſeaſes, as makes ſome Degree of *Combination* and *Contraſt* in a Medicine neceſſary.

But a *Formula*, or *Recipe* as it is called, can be of very little Service.——Twenty or thirty Grains of Rhubarb ſhall purge ſome as much, as twice the Quantity of Jalap will others: — One Grain of the *Theban* Extract, or twenty Drops of the Tincture, will doze one as much, as triple the Doſe will another.——Beſides the Conſtitution and Manner of living of the Patient muſt be conſidered, in Preſcription, as well as the Diſeaſe: A ſober temperate Perſon, or one that lives chiefly on Milk, Vegetables, and Water, will by no Means bear ſuch warm Medicines, compound Waters and Spirits, as may be quite proper for thoſe, who have dealt largely in Ragouts and Ratafia.——But this is obvious,

obvious, and ſo is this Deduction, that we ſhould always begin with ſmall, or very moderate Doſes of all Kinds; and that not only the Phyſic, but the Drink and Diet of the Sick alſo ſhould be prudently regulated: For ſurely what we uſe by Ounces and Pounds cannot but conſiderably affect us, as well as what we take by Grains and Scruples. *Hippocrates* and the Ancients were very careful in this particular, and very exact in preſcribing a *Regimen:* And in this Reſpect likewiſe young Phyſicians would do well to conſult them.—As for thoſe, who will neither read nor reaſon, but practiſe by Rote, and preſcribe at a Venture; I muſt ſeriouſly adviſe them, at leaſt, to peruſe the ſixth Commandment.

CON-

CONTENTS.





AN

ESSAY

ON

FEVERS,

And their various KINDS.

CHAP. I.

Of the most simple, more complex, and inflammatory Fevers.

THE great *Boerhaave*, in his admirable *Aphorism de cognoscendis & curandis Morbis*, begins with the Diseases of a simple Fibre; and indeed the only Method, to attain to any considerable Knowledge in any Science, is to begin from the very Elements of that Science; for whatsoever is most simple is more easily understood, than that which is more complex: Method and Perspicuity are the natural Consequence of such a Procedure.

Thus, in examining into the Nature of Fevers, it seems most proper to consider the most simple of the Kind first.—Let us suppose then a Person, both as to his *Solids* and *Fluids*, in perfect Health, engaged in violent Exercise, as by Running, or the like: This, if long continued, will greatly encrease the Velocity, Friction, and Heat of the Blood, which, when considerably above natural, are called a *febrile State.*—Here is then the most simple Fever, arising from nothing but the encreased Action of the *Solids* on the *Fluids*, and the Re-action of the latter on the former; which soon subsides on the Cessation of the Motion, or violent Exercise.

Let us next suppose another perfectly healthy Person, exposed to cold moist Air, by which his Perspiration may be considerably suppressed; hence will follow an encreased Quantity of Humors, and an encreased Effort of Nature to throw them off, and remove the Obstructions: Whence a feverish Habit will follow, which however frequently soon wears off by the kindly relaxing Warmth of a Bed, or the like, assisting Nature's Endeavours.

A third, of an equally good Constitution, drinks too largely of Wine, or other spirituous Liquors; which, encreasing the Quantity of Humors, and also the Motion of the Blood by its stimulating Quality, produces a Fever, which

which in like Manner ſoon goes off, by Abſtinence, *&c.*

In any one of theſe Caſes, only a ſimple *Ephemera*, or ſhort Fever, is generated.—But if, in the firſt Caſe, the Blood was ſo violently agitated and rarefied, as that, by its great *Impetus*, and Dilatation of the Veſſels, ſome of the red Globules are forced into the *ſerous Arteries*; an inflammatory Obſtruction would be formed: As we ſee even externally, when the red Globules are forced into the Veſſels of the *Tunica conjunctiva* of the Eye, where only *Lymph* or *Serum* ſhould paſs. And if withal the Velocity and Heat of the Blood ſhould be ſo great, as to diſſipate much of its thinneſt Part; the Remainder would be left groſs and thick, and leſs fit for a free Circulation through the *Minima Vaſcula*; and the very Serum would be turned into a Kind of Jelly.—For a Heat, not much greater than the Heat in a common Fever, will coagulate the Serum of the Blood; the Conſiſtence of which Jelly will be in Proportion to the Violence and Duration of the Heat.—Here then, I ſay, by the mere ſimple accelerated Motion of the Blood, an inflammatory Fever would be produced, of much longer Duration, and more dangerous Conſequence.—If the Inflammation ſeizes the Lungs, a Peripneumony; if the *Pleura*, a Pleuriſy; if the Brain, or its Mem-

branes, a Phrenzy is generated. — And these Disorders prove much more severe, where, antecedent to this violent Motion of the Blood, there was a great Strength of the Fibres, and a great Density and Quantity of Blood.

If in the second Case, the Obstruction of the Pores and Perspiration be very considerable, the Fibres strong and tense, the Blood much in Quantity and very thick, Fevers of the same Kind ensue.

If in the third Case, to tense Fibres and much viscid dense Blood, a great Quantity of Wine, or other stimulating Liquors, be added; both the Quantity and Velocity of the Blood may be so greatly encreased, as to bring on a dangerous acute Fever, which too often follows drunken Debauches.

Now as any one of the above Causes may singly produce a Fever; on the Concurrence of two, or all three, a more violent one, *cæteris paribus*, will arise. Thus, from cooling too suddenly after vehement Exercise, as by exposing the Body to very cold Air, and stopping the Sweat and Perspiration at once, a very dangerous inflammatory Fever will come on; which will be much more violent, if the Blood had been heated and encreased by a large Quantity of any spirituous Drink immediately before.—By the bye, nothing so effectually carries off the ill Consequences of a drunken Bout, as keep-

-ing warm, and lying long in Bed *to ſoak it out*, as they call it.

Now by conſidering the proximate Cauſes of theſe Fevers, the Method of Cure is very obvious, which is by leſſening the Velocity, Quantity, and Acrimony of the Blood as ſoon as poſſible.—But nothing ſo ſoon abates the too rapid Motion, Quantity, and Heat of the Blood as Bleeding; for by this Means the red Globules of the Blood and *Vis motrix* are leſſened.—By Bleeding *ad Deliquium*, as *Galen*, and ſome of the ancient Phyſicians, did in inflammatory Fevers, the Blood's Motion almoſt quite ceaſes for a ſhort Time.

Bleeding therefore is certainly the firſt *Intention* in the Cure of Fevers, that ariſe from too great a Quantity, and too rapid a Motion of the Blood; and the longer it is neglected, the more viſcid and acrimonious is the Blood rendered, by diſſipating its more thin Part, condenſing the red Globules, and heating the Serum to ſuch a Degree, as to turn it into a Kind of Jelly.—And, by exalting the animal Salts and Oils to a greater and greater Degree of Acrimony (which is always in Proportion to the Intenſity and Duration of the Heat) the whole Maſs grows putrid at length, and unfit for animal Uſes.—Beſides, whatever Obſtructions may be formed either in the extreme Branches of the *ſanguine*, or Beginings of the

serous Arteries, are apt to be more and more radicated by the too violent Motion of the Blood.—So that the Neglect of Bleeding, at the Begining of any acute Disease, is very often never to be compensated in the subsequent *Stadia* of the Fever; when the *Impaction* of the obstructing Matter is so far advanced, and the Thickness and Viscidity of the Humors so great, as to elude the Force of all Manner of Attenuants and Diluents.

In general, the Quantity of the Blood to be taken away is to be determined by the Strength of the Patient and his Pulse; by the Intenseness of his Fever, Heat, and the Vehemence of his Symptoms, as to Pain, Difficulty of Breathing, *&c.*—Nay the very *Bulk* of the Person is to be considered also; for certainly, *cæteris paribus*, a big strong Man can bear to lose more Blood than a small strong Man.—'Tis safer however to take away too little, than too much at a Time, as the Operation may be so soon and so easily repeated, and as often as may be indicated.—If the Pain, Heat, Difficulty of Breathing, *&c.* abate not after Bleeding, it shews the Necessity of drawing more Blood.

And here let me caution the younger Practitioner not to be deceived by an *oppressed Pulse*, which is often the Consequence* of too great a Fulness of Blood; this is manifest, by the Vibrations of the Artery becoming more free and strong

ftrong after Bleeding in fuch Cafes, as daily Experience evinces.—If he is doubtful in the Cafe, let him apply his Finger to the Pulfe in the other Arm, while the Patient is bleeding; and, if he finds it flag confiderably, flutter, or intermit, it is Time to defift; if it beats ftronger and more open, he may proceed with Safety and Succefs. — There are indeed fome very apt to faint on Bleeding from a natural Laxity of the Fibres, and Want of that due Elafticity, which fhould contract the Veffels in Proportion to the Evacuation.—Thefe fhould be bled in a *recumbent Pofture*, and the Orifice may be frequently ftopped for a fhort Time, whereby Fainting will be in a great Meafure prevented.—Thefe Perfons, though they have too lax Fibres and Veffels, are often plethoric, and of Courfe require Bleeding; efpecially where the Load of the Humors begins to overbear the Power of the Heart, which is the common Cafe in an oppreffed Pulfe.

Bleeding not only leffens the Quantity and Velocity of the Blood, but it alfo makes Room for the Entrance of diluting Liquors into it.—Proper Dilution is abfolutely neceffary in all Fevers, efpecially in the ardent and inflammatory; for in thefe the Blood is rendered too thick and vifcid by the Diffipation of the thinneft Parts of it, and the remaining Serum is more and more incraffated, or jellied, by the

 great

great and continued Heat: So that cooling, thin, diluting Liquors are neceſſary to ſupply the continual Waſte of the Lymph and Serum, and to keep the whole Maſs in a due Degree of Fluxility.---Theſe in general, ſhould be of the aceſcent, and ſomewhat alſo of the ſaponaceous Kind. Of the former, as they are very cooling, and prevent the Encreaſe of the alcaleſcent Acrimony of the Humors, which would otherwiſe be continually advancing by the great Friction and Heat of the Blood: (for the animal Salts are greatly exalted, and made more corroſive, by the feveriſh Heat, and the animal Oils are by the ſame Cauſe turned rancid at length, and highly acrid: The ſweeteſt Oils, or Butter, by great Heat, become vaſtly cauſtic.)—Of the latter, as they not only diſſolve the *Lentor* better, but alſo keep the Humors more properly mixed, by uniting the Salts, Sulphurs, and Waters more intimately with the Blood. I have often known pure Water, drank plentifully in acute Fevers, rendered almoſt as pale and inſipid as when drank; (which, by the Way, is a very dangerous Symptom.) Water, as Water, will not unite with oily Liquors; ſo that when the Serum of the Blood hath been jellied by Heat, and its oily Part exalted, and encreaſed, by melting down the Fat in the *Membrana adipoſa*, &c. it is no Wonder that plain Water neither mixes well with the

Blood,

Blood, nor proves an effectual Diluent. Hence therefore follows the Necessity of mixing something saponaceous with it, as Sugar, Syrup, Jellies, or *Rob* of Fruits, as Currants, Rasberries, Cherries, or the like.—Juice of Lemons, or Oranges, by mixing a little Sugar with it, and a proper Quantity of Water, becomes a very grateful Drink, and answers the Intention of a Diluent both acid and saponaceous.

Besides the Use of Diluents as to the Humors of the Body, no small Advantage will arise from them as to the Fibres and Vessels, which they tend to relax; especially when they are drank somewhat warm.—Now too great a Tension of the Fibres, &c. is naturally concomitant to great Velocity, Heat, and Density of the Blood, which always attend, or rather are the very Essence of an inflammatory Fever.—Every one knows what tepid Bathing will do externally; and it may be easily supposed that subtepid Diluters internally will have an analogous Effect.—In all these Views, the Blood is rendered less rapid, less viscid, and, in Consequence, less hot; which are Matters of the highest Import in the Cure of ardent and inflammatory Fevers. It may be added, that obstructed Capillaries, and obstructed Perspiration, are by such Means most safely and effectually remedied, the Humors being rendered *fluxile*, and the *minima Vascula permeable*. For it is to be noted,

noted, *that where gentle and general Sweats* follow plentiful Dilution, with Liquors of a cooling relaxing Nature, they are commonly critical, and soon carry off the Fever. I say, gentle Sweats; for profuse ones should never be encouraged in the Begining of Fevers, as they drain off the thinnest Part of the Blood, and leave the Remainder too thick, viscid, and apt to obstruct.—In a particular Manner I have often observed them of the highest ill Consequence in the Begining of Pleurisies, Peripneumonies, and the Small-Pox.—And for the same Reason, profuse Discharges by Stool, and thin Urine, are hurtful.

But the most pernicious Method of raising Sweats in the Begining of Fevers, is by giving hot volatile alexipharmac Medicines, stoving up the Patients in hot Air, and smothering them almost with Loads of Bed-cloaths; for these encrease the Motion and Heat of the Blood already too violent, and add Fewel to the Fire: Nay, very often, they are so far from raising Sweat, that they prevent it, by hurrying on the Blood with too great Rapidity to give off any natural and regular Secretions.—It is well known, the higher the Fever, the less the Excretions by Sweat, Urine, Saliva, and the like.—

Certainly, if mere encreased Motion of the Blood can bring on a Fever, whatever will encrease

crease that Motion will continue and augment it, which these Methods and Medicines are known to do.

For these Reasons also Blisters, which throw an acrid Salt into the Blood, and greatly stimulate the Fibres, are very improper in the Begining, at least, of all ardent and inflammatory Fevers.—Yet how often do we see, in the common Practice, a Patient bled largely, then blistered, and forthwith put under a Course of hot alexipharmac Bolusses, Cordials, *&c.*? Which is just as rational as to pull out Part of too large a Fire first, and then forthwith endeavour to quench the Remainder, by throwing on Gunpowder, or Spirit of Wine;—or to lay on Whip and Spur to a Horse on the Fret, when we would stop him: which is really the Case in Blistering, where the oscillatory Power of the Vessels is too great, and the Motion of the Fluids too rapid.

After Bleeding, cooling, emollient, laxative Clysters are of very great Use in the Cure of acute Fevers, even at the very Begining, to bring off the indurated Excrements, which frequently are pent up within the Intestines, and to give a Discharge to any bilious acrid Matter, which might otherwise, in Part at least, be resorbed by the *Lacteals*, &c. into the Mass of Blood.—Besides, they are a Kind of a warm, relaxing Fomentation to the Parts in the *Pelvis* and

and lower Belly, and both derive from the Head and *Præcordia*, and promote a Diſcharge of Urine alſo.

A gentle lenient Purge, likewiſe, is often of the greateſt Service, more effectually to cleanſe the inteſtinal Canal of the *putrid Saburra*. But I would always adviſe to ſuch as act chiefly in the *primæ Viæ*, as *Manna*, *Cream of Tartar*, *Sal catharticus Glauberi*, *Rhubarb*, *Tamarinds*, and the like:—All *draſtic Purgers* are certainly very pernicious, and ſo are all the hot *aloetic* Tinctures, Pills, *&c.*—Indeed, all profuſe Purging is hurtful, as it drains off too much of the lymphatic Part of the Blood, and thickens the remaining.—When Nature ſeems to have too great a Tendency that Way, firſt a Doſe of *Rhubarb*, then a little of the *Species è Scordio*, with a *diacodiate* Anodyne, or the like, may be proper.

In very Deed, little more ſeems neceſſary in the Cure of ardent inflammatory Fevers, than proper and well-timed Evacuations, and plentiful cooling Dilution, with a few nitrous Medicines, and the acid ſaponaceous Juices of Vegetables; for theſe not only tend to keep the Blood in a due Degree of Fluidity, but alſo to prevent its running into a putrid State:—In giving theſe freely, we do but follow Nature (our beſt Guide) that earneſtly demands them.—For how averſe ſoever ſhe may be to Meat in Fevers, ſhe

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ardently desires Drink; and it is a Symptom of very bad Omen when she doth not, till the Fever considerably abates, at least.

If, from any of the above Causes, an inflammatory Fever should seize a Person that had an antecedent sharp State of Humors, the Fever would prove much the more violent; because the acrimonious Salts would act as so many *Stimuli*, accelerate the Blood's Motion, and produce a speedier and greater Putrescence of it. —Hence therefore the utmost Necessity of Dilution in such Cases, to dissolve and wash off the Salts offending, (for nothing but a watery *Menstruum* will dissolve Salts) and likewise Medicines opposite in Nature to the peccant Acrimony.—But the Diluters also should have something of the Saponaceous in them, for Reasons hinted at above; especially when the oily Parts of the Blood are greatly encreased by the Melting down of the Fat by the Heat of the Fever: which often happens to a surprising Degree, and very suddenly, in some very fat Persons, and which continually grows more and more acrid and rancid, and requires some saponaceous *Medium* to unite it with the aqueous Parts; otherwise it produces the most fatal Obstructions, and highest Degree of Acrimony.

As to the Manner of Dilution, I think the Sick should be allowed to drink as freely, and as often as they please, but not forced to load their

their Stomachs with two large Draughts at a Time; which create a *Nausea*, Indigestion, and Wind, with great Anxiety and Restlesness, and, in the Event, Vomiting, or Purging.

The Practice of *Asclepiades* was in Nothing more monstrous than in denying all Manner of Drink to the Sick, for the first three Days of the Fever: And he is very far from keeping up to the Rule he lays down, of curing *tutò*, *celeriter*, *& jucundè*; when, as *Celsus* says, *convellebat vires ægri luce, vigilia, siti ingenti, sic ut ne os quidem primis diebus elui sineret*. *Lib*. iii. *Cap*. 4.—I am sure that he did not learn this from the great *Hippocrates*, nor from Reason, Nature, or Experience.—But this Man from a *Declaimer* turned *Physician*, and set himself up to oppose all the Physicians of his Time; and the Novelty of the Thing bore him out, as it frequently doth the *Quacks* of the present Time; and ever will, whilst the Majority of the World are Fools.

I think smaller Draughts, frequently given, the best Way of Dilution: For, of the same Quantity of Liquor drunk in a certain Time, more is like to be imbibed by the absorbing Vessels, planted thick from the Mouth to the Stomach, by frequently sipping it down, than if swallowed at once in a full Draught; because it is in this Way more frequently, and much

longer applied to these Veſſels.—Beſides, when ſwallowed, the Action of the Stomach and Inteſtines is more effectual in ſqueezing it into the Lacteals and meſaraic Veſſels, when in ſmall Quantities, than when they are, as it were, deluged with the Liquor.

Moreover, Dilution and Relaxation may be further carried on by emollient Fomentations, tepid Baths, cooling lenient Clyſters, *&c.*—Bathing of the Arms and Hands, Legs and Feet, and alſo of the *Hypochondria*, is of very great Service in Fevers of the inflammatory Kind; (the good Effects of which I once experienced on myſelf;) but the *Fotus* ſhould not be much hotter than the preſent Temper of the Body, which may eaſily be adjuſted by a *Thermometer*. This Method not only ſupplies the Blood with Moiſture through the abſorbing Veſſels, but alſo greatly tends to open the obſtructed, and produce a general Relaxation of Fibres, now commonly too rigid. In very dry *ſtrigoſe* Conſtitutions, it cannot but be of the greateſt Service.—The Skins and Bladders of Animals, when very dry, will tranſmit nothing; but, when moiſtened, Water, *&c.* will paſs through their Pores.—And the Drinking frequently of tepid, emollient Liquors is at the ſame Time a Kind of internal relaxing *Fotus* to the *primæ Viæ*, *Præcordia*, *&c.* which is of no ſmall Conſequence, eſpecially in Inflam-

mations of the Lungs, Pleura, *&c.*—I shall only further add on this Head, that this was the Practice of the Ancients, who gave little else in Fevers, besides thin watery Diluents, *Ptisan* or Barley-water, *Hydromel*, *Oxymel*, &c. and used very frequent Fomentations and Clysters.

As encreased Velocity of the circulating Humors will of itself bring on a Fever all Causes that encrease the Blood's Motion will encrease the Fever; the Strength of the Fever therefore will be in a compound *Ratio* of the moving Powers, *viz.* strong tense Fibres, much dense rich Blood, and many acrid Salts in it, which stimulate the Heart and Arteries to more frequent and vehement Contractions. — The large Use of very salt and spiced Meats will raise a feverish Heat, even in the most healthy.

On the contrary, the weaker and more lax the Fibres, the thinner and poorer the Blood, the less vehement the Fever.—This is the Case in what we call *slow*, or *nervous Fevers*; which are generated by low, watery, unwholsome Diet, crude washy Fruit, rainy warm and wet Seasons, long and great Anxiety of Mind, Dejection of Spirits, *&c.*—Here indeed a Kind of *Lentor*, or *Ropiness* of the Humors, is also generated, and is a proximate Cause of the Disease; but it is not of the inflammatory Kind (or what the Ancients called *Phlegma phlegmonodes*, which is particularly inherent in the

the globular Parts of the Blood) for it subsists chiefly in the serous and lymphatic Vessels, which hence become obstructed; and from such a poor ropy State of the Blood few animal Spirits are generated, and they are irregularly secreted and distributed: hence the nervous Symptoms, which denominate the Fever.—And yet as there are Obstructions formed, the stagnant Lymph grows more and more acrimonious, which brings on more or less of a Fever, known by the Quickness of the Pulse, irregular Heats, Chills, *&c.* — All the Humours of the Body grow more and more corrosive, the longer they stagnate; even hydropic Swellings of the Legs, though at first as cold as Marble, become at last highly inflamed, the Humours at length so very acrid as to produce an Erysipelas, Vesications, Ulcers, *&c.* as is often observed at the Close of Dropsies.

Now as the Seat of *these Fevers* seems chiefly in the *ultima Vascula*, or the serous and lymphatic Arteries, and perhaps in the very Origin of the Nerves; and as they are always attended with two great a *Flaccidity* and *Torpor* of the Nerves and Fibres, and the Obstructions lie more remote from the great Road of the circulating Blood; it is no Wonder they are not so easily affected by Medicines, and so readily removed, as if their Cause lay more particularly in the sanguineous Vessels.—Besides it must be

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confidered, that the Nerves and Fibres are not prefently reftored to their due Tone.—Hence we in Fact fee that this Kind of Fevers is both longer in forming, and much longer in being carried off, than a common inflammatory Fever.

Thefe two Sorts of Fevers feem to have in a great Meafure oppofite Caufes, and in Confequence very different Symptoms and Effects. —Let us confider fome intermediate febrile State, which will elucidate this whole Affair. Turn we therefore our Thoughts on an intermittent Fever.

CHAP. II.

Of intermitting Fevers.

THE common procatarctic Caufes of Agues are a moift, foggy *Atmofphere* exhaling from a fwampy, morafs Soil, or a Continuance of cold, rainy, thick Weather; hence in low, fenny Countries Agues are *endemic*, and in fuch Seafons *epidemic*. By fuch Conftitutions of the Air the Fibres are too much relaxed, and regular Perfpiration obftructed, which foon create a *Lentor* of the Blood, and that Obftructions and fome Degree of Stagnation in the ultimate Branches of the *fanguineous Arteries*; as is manifeft from the Coldnefs, Palenefs, and Lividity

vidity of the Fingers, Nails, Lips, *&c.* which immediately precede and begin the *Rigor* of *an aguish Paroxysm.*—The Blood hence recoils upon the Heart, and all the Powers of Nature rouse up to remove the Obstructions; which are soon carried off by the hot Fit, in Sweats, turbid Urine, *&c.*—We see a Kind of aguish Paroxysm brought on by Bathing in very cold Water; Paleness, Coldness, Shivering, a Stoppage of the Blood in the *cutaneous Arteries*, and Repulsion towards the Heart; you are no sooner out of the Bath than the Heart, Arteries, *&c.* overcome the Resistance from the precedent *Constriction*, and bring on an universal *Glow* of Heat. But, if the Person bathed be weak, the Water very cold, and the Continuance in it long; he may die in the cold Bath, as a weakly Patient may in the cold Fit, (which commonly happens, when the Disease proves mortal) the Heart not being able to overcome the Resistance.

If the Fibres are pretty strong, the *Lentor* and Obstructions not very great, the Paroxysm easily wears off by this Effort of Nature.—But if the *Lentor* and Obstructions are great; the Fibres strong and more tense; the Fever runs very high in the hot Fit, and is readily changed by wrong Management into an *acute Continual.*—Indeed it is observable that some epidemic Agues, in some Constitutions, at first put on the Appearance of ardent Fevers, and then

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break into Quotidians, or Tertians; and it is not uncommon for a Quotidian, or Tertian, to be changed by a very hot Regimen at the Begining, as volatile Spirits, Brandy, Pepper, Snake-root, *&c.* (which are too often quacked upon the poor Patient) into an inflammatory Fever with Phrenzy, Pleurisy, or Peripneumony.—So that the Constitution of the Solids and Fluids, in some Kinds of Agues, seems not greatly different from that of inflammatory Fevers.—I well remember, that the *catarrhal Fever*, which spread through all *Europe* under the Name of *Influenza* in the Spring, 1743, frequently became pleuritic, or peripneumonic; and as frequently, after two or three Days, ran into a Quotidian, or Tertian: the Difference of the Constitutions of the Patients, *&c.* thus altering the Face and Nature of the Disease.

Sometimes quotidian, semi-tertian and tertian Fevers, are very rife and cotemporary with epidemic Pleurisies, and Peripneumonies; as particularly in * 1744:—The cold Season, in some Constitutions, bracing up the Fibres so high, and condensing the Blood into such a Degree of Viscosity, as to bring on these inflammatory Fevers on taking Cold, or other Accidents;—whilst, on Persons of a more lax System of Nerves and Fibres, and more weak,

* *Vid. Obs. nostr. de Aere & Morb. Epidem. Vol. II. Martio, Aprili, Maio,* 1744.

watery

watery Humours, it only raised the Powers of the oscillatory Vessels so high, and warmed the Blood so much, as to carry off the ill Consequences of deficient Perspiration, and ropy heavy Juices, by repeated Fits of a regular Intermittent.—Thus we often see Persons of low Spirits, and a leucophlegmatic Habit of Body, raised into a feverish Disposition by the Use of warm invigorating Medicines, Chalybeates, &c. And if this Turn of Nature be well managed, it generally ends in their perfect Recovery.—If you can change a slow nervous Fever into a regular Intermittent, you soon cure your Patient.

But further, I have more than once known Pleurisies, Peripneumonies, and inflammatory Rheumatisms, reign very much in a cold, dry Spring, and a great Number of Intermittents succeed them in the following warmer Months; the Heat abating the Rigidity of the Fibres, and resolving in some Measure the Viscosity and Density of the Blood: Whereas had the Solids continued more tense, and the Blood more dense and viscid, inflammatory Fevers would have been the Consequence, on taking Cold, or the like; which now only produced an aguish Disorder.

Regular *vernal Intermittents* have many Times very salutary Effects, by breaking the *Lentor* and *morbid Cohesions* of the Blood; as a Storm

purges a thick foggy Atmoſphere. The invigorating Power of the advancing Spring, and the encreaſing genial Warmth and Dryneſs of the Air, by rarefying and attenuating the heavy, ſizy Humors, and opening the Pores, are the Reaſons why vernal Agues go ſo eaſily off at the Approach of Summer. And probably the enlivening, attenuating Influences of the growing Spring, actuating the Powers of Nature to throw off the heavy, ropy *Colluvies*, that in ſome may be conſiderably amaſſed during a cold moiſt Winter, may be one Reaſon, at leaſt, of the Frequency of Agues in the Spring Seaſon.—It is certain, all Nature at that Time of the Year undergoes a Kind of *Orgaſm*; even the torpid Vegetables regain freſh Life, and their concreted Juices reſume new Motion.

It appears from * Experiments, that the Blood in Quotidians is more denſe and tenacious than in Tertians, in Tertians than in Quartans; ſo that in Quotidians, *cæteris paribus*, it comes neareſt an inflammatory State: And it is commonly noted, that if the Fever, from a regular Tertian, runs into a Semi-tertian, or Quotidian, or greatly anticipates the Time of the regular Paroxyſm; a remittent, or continual Fever is forthwith the Conſequence.—And this is too often effected by a very hot Regimen, or a too haſty Uſe of the Bark.—Indeed

* *See Dr.* Langriſh's *Modern Theory*, &c. *Chap.* V.

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we very frequently ſee that Quotidians, and double Tertians, (which, by the bye, are oftentimes the ſame Thing) will not bear the Bark at the Begining; till the ſaline Draughts, proper diluting Attenuants, and, in ſome Caſes, Bleeding, Purging, and Vomiting have been made Uſe of.—In Truth, I never think it prudent, in ſuch Kinds of Intermittents, to give the Bark, in any Form, till after four or five Paroxyſms at leaſt, and after having drawn more or leſs Blood from Perſons pretty much inclined to the plethoric;—and this Method is more eſpecially to be obſerved in vernal Agues.—I muſt further note, that as nothing is more effectual in curing Agues than well-timed Vomits, and thoſe too repeated; (as Nature ſhews us, by making this one of her conſtant Efforts in the Paroxyſm) ſo previous Bleeding makes them much more ſafe, in full ſanguine Habits, eſpecially when given in the Paroxyſm; which is frequently practiſed with great Succeſs.—Nor is this a new Practice; for *Celſus* adviſes, *cum primum aliquis inhorruit, & ex horrore incaluit, dare ei oportet potui tepidam aquam ſubſalſam, & vomere eum cogere.* Lib. iii. Cap. 12.

We ſee then that ſome Kinds of Agues border too near on the inflammatory State, and require a cool Regimen, proper Dilution, and, many Times, Bleeding to ſome Degree, as well as other Evacuations. I have known it

neceſſary to join Nitre to the Bark during the whole Proceſs of Cure, and even ſometimes to ſuſpend its Uſe for a Day or two, and give Salt of Wormwood and Juice of Lemons with Infuſion of Chamomile-flowers and *Sevil*-orange Rind, or the like.—If an Intermittent runs into an inflammatory continual Fever, Bleeding and a gentle cool Purge will ſoon reduce it to its *Type*.

But as ſome Intermittents are apt to run up into an inflammatory Fever, far the greater Number, eſpecially in the autumnal Seaſon, are diſpoſed to ſink into low irregular Remittents, putrid or ſlow nervous Fevers. It is not a very rare Thing to find a Quotidian fall into a Tertian, thence into a Quartan, and at laſt end in a Dropſy; and this particularly in ſome Seaſons and Places. This evidently ſhews that the Fibres grow more and more enervate, and the Blood very vapid and watery.—Even vernal Tertians, which oftentimes cure themſelves in a favourable Seaſon, prove many Times exceeding obſtinate in wet, rainy Summers, and the Patients are exceeding apt to relapſe on the ſlighteſt Occaſions: This was particularly obſervable in the wet, cold Summers of 1734 and 1735*.—In ſuch Caſes I have known the daily Uſe of the Fleſh-bruſh, and frequent cold

* *Vid. Obſ. noſtr. de Aere & Morbis Epidemic. Vol. I.*

Bathing,

Bathing, of very great Uſe in preventing Relapſes.—Perhaps it is the Winter-cold, bracing up the Fibres, that commonly puts a Stop to Agues in that Seaſon; for it hath been noted, that they are often very ſtubborn in a warm moiſt Winter.

Improper Evacuations by Bleeding and Purging, an unwholeſome, groſs glutinous Diet, vapid ropy Drinks, as ſtagnant heavy Water, foul Beer, and the like, render theſe Agues very *anomalous*, obſtinate and dangerous, and make them frequently degenerate into malignant, putrid, or ſlow nervous Fevers; otherwiſe they end in Dropſies, Jaundice, or univerſal Obſtructions of the *Viſcera* of the *Abdomen*, and frequently in Diſeaſes of the *Genus nervoſum*.—In a Word whatever takes down the Spring of the Fibres too much, and weakens the *Craſis* of the Blood, will be productive of theſe Miſchiefs; and this eſpecially, when due Perſpiration is frequently interrupted by cold damp Air, Want of due Exerciſe, groſs heavy ſlimy Diet, as Fiſh, Lettuce, Cucumbers, and other watery inſipid Fruits, which are known to ſuppreſs the Perſpiration greatly.

Theſe Obſervations then evidently ſhew the Neceſſity of uſing a warm, invigorating attenuating Regimen in the Cure of Agues, which affect Perſons of a lax Habit of Body, and a poor thin Blood; in a particular Manner when

a wet,

a wet, foggy Atmoſphere prevails.—Under ſuch Circumſtances the *Cortex* of *Peru*, however good and carefully choſen, frequently proves ineffectual, unleſs aſſiſted with proper Alexipharmacs, as *Rad. Serpentar. Virgin.—Contrayerv. Myrrh, Camphire*, &c.—After four or five Paroxyſms, warm Chalybeates may be added with very great Succeſs.—But never be too haſty in giving the *Bark*, or Chalybeates, where the Patient hath a *yellow Caſt of the Countenance, a tenſe Abdomen*, and a very coſtive Habit of Body.—In which Caſe *mercurial, ſaponaceous Deobſtruents* with *Rhubarb, Aloetics, regenerate* or *ſoluble Tartar*, ſhould be premiſed; nay they may in ſome Caſes be very conveniently joined with the *Bark*.

From the whole then of what hath been ſaid on this Head, it appears that a regular Tertian is a *Medium* between an inflammatory and a ſlow nervous Fever; and that, on the one Hand, the Conſtitution of the Solids and Fluids may be ſo highly wrought up as to fire the Blood into a continual Inflammatory; and that, on the other, it may be ſo far depreſſed as to bring on the low *Influent*, or *ſlow nervous Fever*.—And hence the Cauſe and Cure of ſuch Fevers reſpectively ſeem to be obvious.

Now as every Kind of Fever is a Struggle of Nature to relieve herſelf from ſomething oppreſſive, we ſhould always favour her Endeavours

vours by the most proper Means that Reason and Experience suggest. But we should be very cautious, at the Begining especially, how we proceed in spurring on, or bridling her Efforts, till we have well considered the Nature, Quantity, and Quality of the Disease, and the Constitution of the Patient. In order to this it will be highly necessary to make a diligent Examination into these two Things; 1*st*, *the State of the Solids*, and 2*dly*, *that of the Fluids*.

CHAP. III.

Of the State of the Solids.

PRobably all that we call Firmness of Body, and Strength of Constitution, is originally owing to the *rudimental Stamina* of our Bodies; and on the strong, or weak, Texture of them, in a great Measure, depends our future prosperous, or adverse Health.—There was indeed a determined Constitution and Strength of Fibres designed by Nature, and any Deviation from it may be called a Disease; which may arise from weakly Parents, Errors in Diet, Exercise, and many other Things: And this Deviation I would have heedfully attended to in Practice.

A due Proportion of *Tensity*, consistent with a proper Degree of *Flexibility*, constitutes the

happy *Medium* in which perfect Health consists. Too great a Degree of Rigidity tends to waste the nutritious Juices too suddenly, and ends in a *Marasmus*; as too great a Laxity of the Vessels makes them liable to be overloaded, and brings on a *Leucophlegmatia*, or Dropsy. The former over-digests the animal Fluids, the latter doth not sufficiently assimilate what is taken in by Way of Nutriment.

A very strong elastic Set of Vessels act with great Force on the contained Fluids, and produce much Friction, and of Course great Heat, and withal a constant and large Dissipation of the more subtile and aqueous Parts, which render the Blood-globules, in Proportion, more numerous, more dense and compact, and the Humors in general more viscid; as is evident by the State of the Blood always observable in strong laborious People, which is ever of this Kind.—Where this considerably overbears the Standard of Nature, it becomes *constitutional Disease*, and causes a perpetual Fever, as it were, and at long Run ends in *Atrophy* and a compleat *Marasmus*, if some violent inflammatory Disease doth not snap them off much sooner; and to which they are exceedingly liable, and from which, on Account of the dense viscous State of the Blood, the Rigidity and Contraction, or *Stricture* of the Vessels, they escape with much greater Difficulty than others

of

of softer Fibres, and a more weak, but fluxile, Blood. There is no Advantage without an Allay; the Rose hath its Prickles; these Disadvantages flow even from the highest Health and Vigor: *Human Frailty!*

In such Constitutions the Use of emollient farinaceous Drinks and Diet is highly proper, and frequent subtepid Bathing, especially in very dry, and very cold Weather. —Where Persons of such a Frame fall into inflammatory Fevers, as Pleurisies, Peripneumonies, or the like, I would always advise great Plenty of tepid, watery, emollient Diluents to be perpetually sipped; by which Means the warm Vapor relaxes the Parts and Passages of the Lungs, and promotes a freer Flow to the Blood through them, and a more easy and copious Expectoration; at the same Time that the Blood is thus most effectually diluted.— Withal Fomentations, emollient and diluting, moderately warm (not too hot) should be applied to the Feet, Legs, Hands, Arms, *Hypochondria* and Breasts; which have oftentimes a surprising good Effect, and are of infinitely greater Advantage and Efficacy than some of the *indigestible Trash of the Shops*, upon which so much *Stress* was formerly laid.

I have known the preposterous Use of the *cold Bath*, on a *strigose* and a *too rigid Habit* of Body, of exceeding great Detriment; for that

even yet augments the *Corrugation* and *Tensity*. —You may generally obſerve that moſt, who uſe the cold Bath, grow ſomewhat thinner, though more vigorous and active.—Some Years ſince I was conſulted by a Gentleman of a thin ſcraggy Habit of Body, but of much natural Vivacity of Spirit, and one that conſtantly uſed much Exerciſe, and had long accuſtomed himſelf to cold Bathing in the Sea very frequently, even ſometimes in very cold Weather: He waſted daily in his Fleſh, and at length became weak and very low-ſpirited.—I judged, that by this Method the fibrous Syſtem was overbraced, and that too much of the finer *Lymph*, and even of the *Liquidum nervoſum*, was forced off by the Pores, &c. For he all this while uſed a ſufficient Quantity of Food, and had no extraordinary ſenſible Evacuation.—I put him on a ſoft, relaxing, nouriſhing Diet, forbad him the Uſe of the Cold-Bath, and at laſt ſent him to uſe the Waters at the *Bath*:—The Event was, that he ſoon recovered much better Health, Spirits and Fleſh. Nothing on the contrary more effectually ſtrengthens weak, lax Fibres than cold Bathing: By this weak, flabby, rickety Children are ſoon invigorated, as it were to a Miracle.—Indeed in the Times of Popery and Ignorance, when the Prieſts were Knaves, and the People Fools, many a *Well* was ſanctified for nothing but pure *cold Water*, the

the Virtues of which the *Miracle-mongers* wholly attributed to a *Saint* of their own making.

The Doctrine of the ancient *Methodists*, with Respect to the *Strictum* and *Laxum*, if rationally pursued, might be of great Service in the Practice of Physic; though they indeed frequently confounded them both in Theory and Practice. But *Boerhaave* hath made many rational and valuable Observations on the Diseases of too tense, and too lax Fibres, which are of exceeding great Use in Practice.—There seems to be another *Species of Fibres* not taken Notice of, which may be called the *tender*, or *delicate Constitution of the Solids*, which is most readily and highly affected with Pleasure, or Pain; but in which the *Stamina* are so slender, that a very slight Accident breaks them. This is often observed in thin, fair Persons, of a very delicate Frame, but exceedingly lively; in whom the *Spirit* is willing, though the *Flesh* is weak: Such very often fall into an *Hæmoptoe*, or other *Hæmorrhages*, Colliquations, and a pulmonary *Phthisis*, and thence become what is peculiarly called Consumptive.

We have taken a short View of the ill Effects of a too great *Stricture*, or *Tension* of the Solids; let us next cursorily see what Disadvantages arise from their too great Laxity.

Weak Vessels do not sufficiently act on the contained Fluids, they do not sufficiently *com-*

minute,

minute, *round off*, and *assimilate* the chylous Particles :—Indeed the Chyle itself, where the Organs of Digestion are weak, is never well prepared.—Where the Vessels have a due Tone, and act with Vigor on the nutritious Juices which they receive from the Stomach, *&c.* no chylous irregularly formed Particles are to be found in the Blood after a few Hours from the Repast; but, in weakly *leucophlegmatic* People, they are never, or not till after a very long Time, reduced into Blood-globules, and a proper *Serum*.—Besides in these lax Habits the Blood itself is not sufficiently actuated, and driven on with Force enough to keep a due vital Warmth, nor to work up the Salts and Sulphurs, or Oils, to such a just Degree of *Tenuity*, as may fit them to serve the Purposes of animal Nature; nor are the red Globules of the Blood (the great Principle of Life and Heat) duly compacted, and moulded into a sufficient Roundness and Firmness.—Hence irregular Concretions in the Vessels, a *Lentor*, or *Ropiness* in the *Serum* and *Lymph*, few animal Spirits, and all the Secretions weak and imperfect.—From the whole follow *Cachexy*, *leucophlegmatic* and dropsical Disorders, irregular intermittent and remittent Fevers, or those of the slow nervous Kind; the Humors running into a Kind of Putrescence for Want of due Motion and a Circulation, and stagnating in the *ul-*

tima

tima Vascula, on Account of the Obstructions continually forming from the Want of a due Action of the Vessels, which do not sufficiently agitate, comminute and protrude their Contents.

Now all Humors of the Body, that stagnate, soon begin to corrupt and grow acrimonious, and that too many Times to such a Degree as to bring on Fevers of the worst Kind: For though the Circulation may be very languid, from the Weakness of the contracting propelling Vessels, yet it is sufficient to cause some Degree of feverish Heat from the stimulating Acrimony, and at last a general Putrefaction; witness the *chlorotic Fevers*, which very often prove of exceeding dangerous Consequence.— Cold hydropic Tumors of the Legs frequently end in a Kind of Erysipelas and Gangrene.

A due Consideration therefore of the State of the Solids is a Matter of high Importance to Physicians, not only in chronic, but also in acute Diseases; for they are generally the primary efficient Causes of the particular States of the Fluids. For Instance, we may naturally conclude that a Man of a robust Constitution, strong, rigid Fibres, and used to much Exercise, hath a dense rich Blood, inclining to such a Degree of Viscidity, as will bring on Inflammations on the Accession of a feverish Disorder; and, of Course, that timely Bleeding is the pro-

proper Way to prevent it: On the contrary, that a weak, lax, flabby Conftitution hath a poor, thin, watery Blood, and cannot bear Bleeding well, nor large Evacuations.

A diligent Enquiry of this Nature is of vaft Concern in the Begining of acute Difeafes, particularly in the Small-pox, and other eruptive Fevers; fo as to determine one to bleed, or not to bleed.

For Inftance, where a ftrong Man, with a ftrong Pulfe, is feized with violent Symptoms of the Small-pox, it would be unpardonable not to bleed before the Eruption; for we cannot but fuppofe the inflammatory Fever muft run high in fuch a Conftitution; but it would be great Rafhnefs to bleed Perfons of a weak, lax Habit, unlefs fome very urgent Symptom demanded it.—Yet how little is this regarded in the vulgar Practice? For fome bleed, and vomit, of Courfe, upon the leaft Appearance of an Attack of the Small-pox; whereas others are fo fearful of weakening their Patients, that they fuffer them to die of the Inflammation, even abftracted from the Virulence of the Difeafe.

If a Phyfician hath a previous Knowledge of the Patient, he can be at no great Lofs in judging of his Conftitution; and therefore *Celfus* rightly pronounces, *cum par fcientia fit, utiliorem*

tamen

tamen medicum esse amicum quam extraneum *. When that is not the Case, hard firm Flesh, dry Skin, great Heat, Thirst, and Colour, hot Breath and violent Pains, with a strong, tense, quick Pulse, are pretty evident Symptoms of strong, very elastic Fibres, and of an ardent or inflammatory Fever.—A weak, quick, soft Pulse, no great Heat, or Colour, little Thirst, pale Urine, a soft Flesh and Skin, clammy, partial, irregular, cold, or profuse Sweats, with Heaviness and Anxiety, rather than severe Pains, and a moist, though perhaps a white coated, or foul Tongue, denote the contrary.—But in Truth these Things are rather to be learned from Experience, than taught by Precept:—Therefore I shall say no more on this Head.

CHAP. IV.

Of the State of the Fluids.

THE State of the Fluids should next be considered, which, in a great Measure, depends, as was said before, on the Condition of the Solids.

There is then, 1*st*, a State of the Blood, in which the Humors are too dense and viscous, in which the Blood-globules are in too great

* *Præfat. sub finem.*

Quantity, and too closely compacted or condensed, in which the serous Globules are so likewise.—In a Word, in which the whole Mass of the Fluids is too glutinous, and too apt to concrete into a solid Form.—Persons of vigorous Constitutions, of strong Fibres, that use much Exercise, and a full Diet, are peculiarly subject to this State.—Now when the Blood-globules are very dense, and in great Quantity, and the Vessels very strong and elastic, a great *Momentum of Motion* must be produced in the circulating Fluids, and of Course great Friction, and much Heat, which both dissipates the more fluid Parts of the Blood, and encreases its Viscosity; so that the Residue becomes very glutinous, and less fit to pass the extreme Branches of the capillary Arteries; and hence Obstructions, hence Inflammations.

Besides, great Heat tends to coagulate the *Serum*; a Heat, not much above the common Heat in an ardent Fever, will turn the *Serum* of the Blood into a Jelly, as is found by Experience:—Hence, when Blood is drawn off in high inflammatory Fevers, it appears covered over with a thick glutinous Coat, or *Buff*, as it is called; I have seen it in some severe pleuritic and rheumatic Disorders near an Inch thick.—That it is thus formed by the febrile Heat, is manifest; for at the first Bleeding, at the very Begining of the Fever, it shall often appear

appear pretty florid, tho' very denſe; whereas on the ſecond, third, or fourth Bleeding, when the Heat hath had a longer Continuance, and been encreaſed to a greater Degree, it becomes exceeding ſizy, and covered over with a very thick Buff: — And indeed, in general, the ſtronger the Fever, and the Perſon from whom it is drawn, ſo much the more thick and tenacious. —And this in a particular Manner happens in Fevers attended with violent Pain, as Pleuriſies, Rheumatiſms, *&c.*—For the Pain being a *Stimulus*, which greatly encreaſes the Motion, Friction, and Heat, it *incraſſates the Serum* in Proportion to its Vehemence. —And the inflammatory *Size* alſo ſticking in the extreamly ſmall Veſſels of the Membranes, *&c.* over-diſtends them, and produces further Inflammations and Pains; ſo that they mutually encreaſe one the other. Tho' this denſe State of Blood, in Health, is attended with great bodily Strength, a ſtrong firm Pulſe, and much natural Heat; yet, on the Acceſs of a Fever, it produces very violent Symptoms, quickly fatal, unleſs prevented by timely Bleeding, cooling, diluting, emollient Drinks and Medicines.

But further, an Over-fulneſs of even good Blood is a Degree of Diſeaſe, and therefore *Hippocrates* * pronounces the *athletic* Ἐυεξία dangerous,

* *Aphoriſm* 3. *Sect.* i.

dangerous, and *Celſus* elegantly ſays from him, that Perſons of ſuch a Habit *ſuſpecta habere bona ſua debent* *. — Such a *Plethora* not only over-diſtends the ſanguineous Arteries, but alſo too much dilates the Orifices of the ſerous and lymphatic Arteries; by which, on the ſlighteſt Occaſions, the Blood-globules are forced into them, and form Obſtructions *errore loci*, as it is called: Whence Inflammations and Ruptures of the Veſſels frequently follow, particularly in the Brain and Lungs. — Here nothing will relieve equal to Blood-letting, which (if not too immoderate) is ſo far from weakening, that it ſtrengthens the Patient, by reſtoring a due *Æquilibrium* between the Solids and Fluids: The keeping up of which however is a Matter of great Nicety in ſome Caſes and Conſtitutions; tho', in general, it admits of a conſiderable *Latitude*, even conſiſtent with Health. Some delicate, florid, plethoric People ſuffer immediately from a very ſmall Degree of over, or under, Living; and I have known ſome Men of this Conſtitution, that have had as regular a *menſtrual Diſcharge*, by ſome Kind of Hæmorrhage, as the more delicate Sex.—The beſt bred, and moſt accurately fed, *Cock*, will not hold his *athletic State* above twenty-four Hours †, and dwindles from it ſurpriſingly

* *Lib. II. Cap.* 2.

† *See Dr.* Bryan Robinſon *on the Food and Diſcharges of human Bodies, p.* 119.

ſoon

ſoon—*Quia non ultra progredi poteſt, retro, quaſi ruinâ quâdam, revolvitur,* as *Celſus* * ſays of a plethoric Man.

There is, 2*dly*, a Conſtitution, or Craſis of the Blood, quite oppoſite to the former, in which there are too few Blood-globules, and thoſe too looſely compacted; and in which the *Serum* is too watery and vapid, and ſometimes of a ropy ſlimy Nature. From this weak pituitous Blood all the Secretions are imperfect, and not ſufficiently participant of an animal Nature; the *Bile inert*, the animal Spirits flat and deficient, the *Saliva* a mere *inſipid Mucus*, and ſo on.—Hence univerſal Indigeſtion, Weakneſs, Coldneſs, Paleneſs, *Cacochymy*, Dropſy, *&c.*—In a Word, ſuch a ſlow Motion of the Humors, that at length, for Want of a due Circulation, they run into morbid Concretions obſtructing the Veſſels in ſome Places, and ſtagnating in others, where they fall into ſpontaneous Corruption, productive at laſt of ſuch a Degree of Acrimony, as to end frequently in Fevers of a very malign Nature, and dangerous Conſequence: And this the more ſo, as the Veſſels, in ſuch a miſerable Conſtitution, have greatly loſt their Elaſticity, and the Blood its moſt vital Principles:—So that, in the Event, either the *ſlimy Lentor* ſtagnates up to the Heart, or the corrupted Hu-

* *Lib. II. Cap* 2.

mors corrode and deftroy the moft delicate and effential Parts of the animal Fabric, particularly the *Compages* of the Brain, where the Humors naturally move exceeding flow, and the Veffels are of the moft tender Structure.—Thus as too rapid a Circulation often burfts the minute Veffels; fo the Humors, moving too flowly, ftagnate, corrupt, and at length corrode them.

Thefe two different States of the Fluids may not improperly be called conftitutional, as they naturally follow the refpective State of the Solids; fo as that a ftrong rich Blood always attends a ftrong elaftic Set of Veffels, and a weak watery Blood a relaxed Habit of Body: where either confiderably deviates from the Standard of Nature, it becomes a real Diforder, and is to be duly regarded in whatever concurring Difeafe happens *.

* *Ardent and inflammatory Fevers are naturally the Effect of over-elaftic and rigid Fibres, and a very denfe vifcid Blood; as the low and flow nervous Kind are of a too lax State of Veffels, and a weak and thin Blood.—But there are feveral Difeafes, efpecially thofe arifing from Contagion, which are common to both.*

CHAP. V.

Of the dissolved and putrid State of the Blood.

BUT, besides these, there is moreover a *third State of Blood*, of more dangerous Consequence than either; I mean a State of it, that more immediately tends to *Dissolution* and *Putrefaction*:— This is evidently the Case in some *Scorbutics*, (as they are called) where, without any considerable, antecedent, sensible Disorder (more than perhaps a Kind of Lassitude and Languor) Persons have, on a sudden, an Eruption of violet-coloured, livid, or even black and blue Spots all over their Body, and forthwith fall into profuse, and sometimes dangerous and even fatal *Hæmorrhages*, when they have scarce thought themselves, or been thought by others, to be under any Manner of Disorder. —Abundance of Instances of this Kind happen: I have seen a great many both in Children and grown Persons, and frequently foretold the ensuing Hæmorrhage.

Where *Women* have such Eruptions, or black or blue *Vibices*, or large irregular Spots like Bruises, they are always subject to a vast Overflow of the *Catamenia*, if not to other profuse Hæmorrhages.—Nay when Persons of either Sex are affected with these Appearances, they are

are apt to bleed excessively from the slightest Wound, and very often without any, from the Gums, Nose, Guts, or urinary Passages.

The Blood of such Persons, when it hath been drawn off, in order to prevent the further Progress of the Hæmorrhage, as was imagined, (which by the Way is very improper, unless there are very manifest Signs of a *Plethora)* always appears a *mere Gore* as it were, not separating into *Crassamentum* and *Serum*, as usual, but remaining in an uniform half-coagulated Mass, generally of a livid, or darker Colour than usual, tho' sometimes it continues long very florid ; but it always putrifies very soon. —It is even observable, that the *Breath* of such People most commonly stinks much before the Eruption, and their *Urine* frequently smells very rank ; evident Signs of the begining *Putridity* of the Humors ; which, growing more and more acrimonious, at length erode the Vessels. For these Kinds of Hæmorrhages often happen to Persons, that have not the least Sign of a *Plethora*, no full, no very quick Pulse, little or nothing of a feverish Habit, nor under the Use of violent Exercise ; so that they happen from the *Corrosion*, not the *Rupture*, of the Vessels broke open by too great a Quantity and Velocity of the Blood.—In some very tender and delicate Constitutions indeed, a very small Effort will sometimes burst their

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fine thin Veſſels, as is obſervable in ſome, who are ſubject to an *Hæmoptoe*, or Bleeding at the Noſe from every ſmall Accident; but theſe Hæmorrhages are ſeldom attended, or preceded, with livid, or violet-coloured Eruptions, *&c.*——In theſe Caſes Drawing of ſmall Quantities of Blood is proper, to abate the too great *Impetus* on the tender Veſſels, even tho' there may be no apparent *Plethora.*

Tho', I am perſuaded, the above-mentioned Hæmorrhages moſt commonly ariſe from an *acrimonious State of the Humors*, which breaks the *Craſis of the Blood*, and corrodes the Extremities of the capillary Arteries; yet they ſometimes alſo happen from a too looſe Contexture of the Blood-globules, not ſufficiently compacted by the Action of the Heart, Arteries, *&c.* for Want of which they become *oblate Spheroids*, or irregularly formed *Moleculæ*, inſtead of *regular Spheres*, and of Courſe of a greater Diameter, and a leſs firm *Compages* than natural.—But it appears from microſcopical Obſervations (eſpecially thoſe made with the *Solar Microſcope)* that the Blood-globules, in paſſing thro' the minuteſt Ramifications of the ſanguineous Arteries, change their globular, into a very oblong Figure frequently, in order to paſs thro' theſe exceeding ſmall Veſſels.—And it is eaſy to conceive how theſe looſely cohering Globules may be broken

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in their Paſſage, as the enlarged Bulk makes their *Tranſit* more difficult. —— Now as theſe broken Parts are of much leſſer Diameter than the original Globules, they may readily enter, and even paſs thro' ſome of the excretory Ducts, and tranſude *per Diapedeſin*, as the Ancients called it.—That this is ſo in Fact ſeems to appear from the bloody Urine, Stools, and other Hæmorrhages, which ſometimes happen without any Manner of Pain, Violence of Motion, or the leaſt Suſpicion of the Rupture of any Veſſels :—Nay, I have more than once or twice ſeen in malignant Fevers, and that too where the Motion of the Blood was far from being very rapid, a Kind of * bloody Sweat from the *Axillæ*, tinging the Linnen almoſt of a *Burgundy* Wine Colour.—And it is obſervable, that when this Sort of Hæmorrhages happens from the Noſe, the Matter is a thin *bloody Ichor*, not concreting, as Blood commonly doth from the Noſe of Perſons in Health, or in an inflammatory Fever, which is generally very thick, ſhining and florid : — Some *chlorotic Girls* are vaſtly apt to bleed from the Noſe, and yet their Blood doth but juſt colour a linnen Cloth.—The *Petechiæ*, *Vibices*, or livid *Stigmata*, that very often attend theſe Hæmorrhages, ſhew that the Blood-globules are diſ-

* *Dr.* Hodges, *of the Plague, obſerved purple Sweats in it, and ſome like Blood.*

ſolved,

ſolved, or broken down, and enter into the ſerous Arteries, *Vaſa exhalantia*, *&c.* where ſticking faſt they form theſe Appearances.— And I have particularly noted, in ſome putrid, malignant Fevers, a Kind of yellow, or rather dun *Petechiæ* *, vaſtly numerous, and of not leſs fatal Omen than the others: Here the Blood-globules were broken into ſuch ſmall Particles, as to have quite loſt their original Colour when combined. Perhaps the fuliginous Sweats, and dark coloured, or black Urine with a livid Sediment, which ſometimes happen in Fevers of the malignant Kind, ariſe from a broken corrupted State of the Blood-globules: I have ſeen ſeveral Times the Urine rendered almoſt quite black, depoſiting an immenſe Quantity of Matter nearly of the Colour of *Coffee-grounds.*—And we are ſometimes ſurprized to ſee the Face and Hands of the Sick grow *dirty*, and *ſooty* as it were, tho' all imaginable Care was taken to keep them clean.

Beſides there are ſome Things that ſeem to deſtroy the *Copula* of the Blood-globules, and greatly promote the *Seceſſion* of the *ſix ſerous Globules*, that compoſe them, one from another; particularly *Laurel-water*, which makes the *Craſſamentum* vaſtly leſs denſe, and exceed-

* *Vid. Obſ. noſtr. de Aere & Morb. Epidem. Vol. I. Ann.* 1735, *Mart. & Aprili*; *& Vol. II. Anno* 1740, *Junio.*

ingly

ingly more soft and tender than natural, and turns the Serum red, or of the Colour of *Burgundy* Wine, as appears from the curious Experiments * of Dr. *Nicholls* and Dr. *Langrish* †. —The Bite of the Serpent *Hæmorrhous* ‖ causes such a Dissolution of the Blood, that it breaks forth from all Parts of the Body, even the very *Pores*, and kills by an *universal Hæmorrhage*. Possibly *profuse Sweats*, *Diarrhœa*, *Diabetes*, and spontaneous Salivations, may arise from a Kind of Dissolution of the serous Globules.—A long and large Use of *Mercury* will turn the whole Mass of Blood into a mere watery *Colluvies*.

But, as I said before, this broken, corrupted State of the Blood-globules is, in general, the Effect of Acrimony. ‡ *Sal volatile oleosum* mixed with Blood fresh drawn, destroys, or dissolves the Globules in less than a Minute; ** Spirits of Harts-Horn, taken in large Quantities, will produce Hæmorrhages; and so will frequent and large Doses of Aloetics, as I have again and again observed.—Indeed, such a State

* *Dr.* Mead *of Poisons, 3d Edit. p.* 270.

† *See his Experiments on Brutes.*

‖ *See* Lucan, Dioscorid. Nicander *in* Theriacis, *&c.* *Dr.* Mead *of Poisons.*

‡ *See* Leeuwenhoek. Epist. ad Christoph. Wren. Arcan. Natur.

** Arbuthnot *of Diet, p.* 106.

of

of Blood is commonly brought on by acrimonious Diet, Medicines, *&c.*—Thus the ſalt and half rotten Proviſions of Sailors, in long Voyages, cauſe ſuch a Sharpneſs and Corruption of the Humors, that they are rendered almoſt unfit for the common Uſes of Life, producing great Weakneſs, Languors, wandering Pains and Aches, ſtinking Breath, corroded ſpongy Gums, black, blue, and ſallow Spots, ſordid, dark, livid, fungous Ulcers, Gangrenes, *&c.* and ſuch *Scorbutics* frequently fall into petechial Fevers, bloody Dyſenteries, Hæmorrhages, *&c.* What is mentioned by the Rev. Mr. *Walter*, in Lord *Anſon*'s Voyage, is very ſurpriſing, *viz.* that the Blood burſt forth from the Wounds of ſome of the *Scorbutics*, after they had been *cicatriſed* for twenty or thirty Years. — I have known many a Ship's Company ſet out on a Cruize in high Health, and yet in two or three Months return vaſtly ſickly, and eaten out with the Scurvy, a third Part of them being half rotten, and utterly unfit for Service.—About four or five Weeks after they have been out, they begin to drop down one after another, and at length by Dozens, till at laſt ſcarce half the *Complement* can ſtand to their Duty: Particularly I remember, ſome few Years ſince, from a Squadron under Admiral *Martin*, we had near 1200 Men put on Shore ſick at one Time,

tho' they went out very healthy, and returned in about twelve or thirteen Weeks *.

Thoſe who accuſtom themſelves to take largely of volatile and fixed alcalious Salts, Species, and Aloetics, are always ſubject to theſe Maladies.—Not a few of thoſe, who took the *alcalious ſaponaceous Hotch-potch of Mrs.* Stephens, and the *Soap Lees*, for a long Time together, fell into hectical Heats, a hot Scurvy, Hæmorrhages, Dyſentery, *&c.* — A remarkable Inſtance of this lately happened to a Gentleman of the *Weſt of Cornwall*, who for ſeveral Years had laboured under a Stone in his Bladder :—He was originally of a tender Conſtitution, and had taken the *Lixivium*, &c. for ſeveral Weeks, till at length his Gums began to grow exceeding ſpongy, inflamed and livid, at laſt extreamly ſore and putrid, inſomuch that the Fleſh might be pulled off with the greateſt Eaſe ; they bled conſiderably on the leaſt Preſſure, and a thin bloody *Ichor* continually leaked off from them.—Livid Spots alſo appeared on him, and his Legs, and Thighs eſpecially,

* *Upon this I drew up a Propoſal for preventing the Scurvy among the Sailors, which I communicated to ſeveral Captains and Surgeons of the Men of War. This I afterwards publiſhed in the* General Evening-Poſt *in* Octob. 1747, *which was republiſhed in the* Gentleman's Magazine, *&c. for* Octob. 1747.— *As it hath ſince been tried with Succeſs, both in the Men of War and Privateers ; and, as I am fully convinced of its Uſefulneſs, I again recommend it.* See *Page* 259.

became vaſtly ſore, and of a Claret Colour, or rather more livid, ſo that a Mortification was feared. Upon this I was conſulted for him by Mr. *Hingſton*, a very ſkilful *Apothecary of Penryn*, who ſtated his Caſe. — Apprehending an *alcaleſcent*, putrid State of the Humors, and a Diſſolution of the Blood from the Courſe he had gone through, and the Symptoms he now laboured under, I adviſed the Decoction and Extract of the *Bark* with *Elixir Vitrioli*, and ſubacid Drinks and Diet; which ſoon took off the Inflammation, Sponginefs, and Bleeding of his Gums, and prevented the further Advance of the livid Colour of his Thighs, *&c.* which in a few Days diſappeared.— About ſome two or three Weeks after, a copious Eruption of red, fiery Puſtules broke out upon him, which ſeemed to promiſe ſome Advantage:— However, being reduced exceeding weak by a Complication of Diſorders, and a confirmed Hectic, he died quite tabid about a Fortnight or three Weeks after.—A very *large Stone was taken out of his Bladder* after his Death, of the Shape of a Pear, weighing ℥viii ʒſs Avoird. the ſmaller End lay towards the Neck of the Bladder.

It unqueſtionably appears from Experiments made on the Urine of thoſe, that have taken pretty largely of the *Lixivium*, or Mrs. *Stephens's* Medicines, that the Urine becomes al-

calious *, and of Course the Serum of the Blood likewise, from whence it was secreted.— This is indeed a very strong Argument in Favour of the *lithontriptic*, or *dissolvent* Power of the Medicines; as they have undoubtedly this Effect on human *Calculi*, when macerated in them, out of the Body.—But I think, at the same Time, it gives us just Reason to suspect very dangerous Consequences from a long Use of such Things; especially in some tender Constitutions.

It is well known, that volatile-alcali Salts mixed with the Blood, when just drawn, or rather as it runs from the Vein, keep it from coagulating, and hinder it from separating into Crassamentum and Serum, as usual: The Experiment is easy, and every one will find it true on Tryal. This very adequately resembles the Blood drawn from the bleeding Scorbutics, and also from most Persons that labour under putrid petechial Fevers, when the Blood is drawn very early in the Disease.

All Humors of the Body, actually putrefied, become a strong Alcali, and putrid Blood loses its Consistence, and soon after its Colour, running into a yellowish dark-coloured *Sanies*.—The Blood drawn in some greatly putrid, petechial Fevers hath had this Appearance, and been observed

* *See the Experiments of Dr.* Hartley—Kutty. *Mons.* Morand, &c. *on this Matter.*

ferved actually to ftink as foon as drawn *, as well as the Urine as foon as made; fo far was the Putrefaction advanced whilft even Life was ftill fubfifting. The furprifingly great, and fpeedy Corruption of Bodies, dying of peftilential Fevers with Spots, fhews this likewife: I have known fuch a *Corpfe air* † as much, as they call it, in feven or eight Hours, as dead Bodies commonly do in feven or eight Days, and to leak out a moft putrid *Sanies* from all the Outlets of the Body :—Which, by the bye, is a Reafon why Perfons, dying of fuch Fevers, fhould be buried very foon.

Some Kinds of Poifons, as particularly the *Bite* of a *Viper*, and fome other venomous Animals, bring on a very fudden Corruption and Diffolution of the Blood, and turn it into a yellowifh *Sanies*: *Peftilential Effluvia* alfo foon deftroy the *Crafis* of the Blood, and produce an univerfal gangrenous Difpofition in the Humors.—This is evident from the frequent and fatal Hæmorrhages, excefiively fœtid Sweats, Vomitings and Stools, and the general *Necrofis* that follows, which have been obferved in the Plague, and peftilential Fevers, by the beft Authors ‖.—The Hæmorrhages in particular

* *Vid. Vander Mye de Morbis Bredanis—Morton, Pyretolog. Prolegomen, p.* 26.

† *De Aere & Morb. Epidem. Vol. I. Martio* 1735.

‖ *Particularly* Diemerbroek, Hodges, *and the Authors in* Traité de la Pefte fait par Ordre du Roy, *Paris* 1744. 4*to*.

are often vaſtly profuſe and obſtinate in the Plague; and I have many Times noted the ſame in peſtilential and petechial Fevers; and the Blood, thus iſſuing, doth not coagulate * as uſual:—All Arguments of the higheſt Acrimony and Diſſolution of the Blood.

The Contagion of the Small-pox ſeems to affect ſome Conſtitutions much in the ſame Manner, producing Spots, Putrefaction, and vaſt Effuſions of Blood from ſeveral Parts of the Body, ſometimes even at one and the ſame Time.——I have ſeen many Inſtances in this Diſeaſe, where, within four or five Days from the Seizure, Purples have appeared all over the Body, and Hæmorrhages from ſeveral Parts in a profuſe Manner; particularly the *Uterus*, urinary Paſſages, and Noſe; and the Puſtules have turned quite black; a *bloody Ichor* iſſuing from them in Abundance; and this too where no violent Symptoms of any Kind had preceded.—Little Miſs *R—n*, about five Years old, had ſuch a Kind about fourteen Years ago; they came out with ſcarce any conſiderable Fever, Pain, Sickneſs, or the like, yet Spots appeared at the ſame Time very large, livid and black.—The Pox were but few, ſome of which about the Lips, internal Parts of the Cheeks, and Tongue, turned very black, and bled pretty largely.—The Child was often taken

* *Traité de la Peſte, Part I. p.* 343.

with

with a ſlight *Deliquium*, and forthwith would return to her Play-things as before.—At length ſhe brought off pretty much florid Blood, and ſome black and coagulated, by Stools, and ſunk away inſenſibly as it were into the Arms of Death, about the ninth Day from the Attack of the Diſeaſe.

I lately ſaw a dreadful Caſe of this Kind in Miſs *B—y*, a young Gentlewoman, who had much fatigued herſelf in very hot Weather, immediately before the Seizure with the Small-pox, by walking, riding, dancing, &c.—— She had Millions of *truly Small* Pox, and a vaſt Number of black and blue Spots, that broke out all over her Body the third Day incluſive from the Seizure, and her Legs and Thighs appeared quite purple; ſhe bled at the Gums and Noſe very largely, and yet at the ſame Time had a very profuſe Diſcharge of the *Catamenia* about ſix Days before the regular Period. — She died the ſixth Day from the Attack:—She had from firſt to laſt an inexpreſſible Load at her Breaſt, with vaſt Anxiety, frequent Faintings, and a vaſtly quick, fluttering, ſmall Pulſe.

It is always a fatal Prognoſtic, when Spots and Hæmorrhages appear at the very Eruption of the Small-pox, and the Sick ſeldom, or never, ſurvive the ninth Day of the Diſeaſe; the Blood running into immediate Diſſolution and

Putrefaction. I am persuaded, scarce one in a thousand recovers under these dreadful Circumstances; especially if the Spots are very livid, black and numerous.—If any Thing is to be done in these deplorable Cases, it must be by timely and duly administering *Acids*, the *Bark* and *Astringent Alexipharmacs*; which certainly have oftentimes exceeding good Effects in petechial Fevers attended with Hæmorrhages.—Dr. *Mead*, in his late elegant Treatise *De Variolis & Morbillis* *, hath given us Reason to hope for Success by the Use of these Medicines in the bleeding and petechial Small-pox, and also the Method of exhibiting them.

This dissolved State of Blood also often happens in putrid malignant Fevers, arising frequently from *Contagion*; but is sometimes the mere Effect of a Fever seizing Persons of an *acrimonious* State of the Blood and Humors, which is the Case of the *highly scorbutic*: The former acting in an analogous Manner to the Poison of the Viper on the Blood; the latter by the Power of the *saline Spicula* on the Blood-globules, which is now greatly increased by the febrile Motion and Effervescence of the Blood. Thus an inflammatory Tumor in Person of a good, sweet, sound Constitution suppurates into a *kindly laudable Matter*; in a very sharp State of Humors it turns either into a *gangre-*

* Cap. iii. *De variolarum curationibus.*

nous

mous Sanies, or *cancerous Ichor*. What the Action of animal Heat and Motion will do, on the Salts of the animal Humors, may be ſeen in the Caſe of thoſe that die of Famine: for take the ſoundeſt Perſon, and deprive him of all liquid and ſolid Aliment, the Salts become continually more and more acrimonious; till at length a Fever, Delirium, *&c.* are brought on by their great Irritation, which ſoon ends in univerſal Putrefaction and Death. — You may ſee how this Putreſcence of Humors advances by taking a *healthy Nurſe*, whoſe Milk, for ſome Hours after eating, is white, thin, ſweet, and grateful; let her faſt for ſixteen or eighteen Hours, it becomes thick, yellow, ſalt, and diſagreeable: Let her further abſtain for ſome few Hours longer, it turns of a much deeper yellow, nauſeous, and even ſtinking; and all this much more ſo, if ſhe happens to labour under a Fever, a bloody Kind of Matter iſſuing inſtead of Milk.—If this happens to the moſt aceſcent and ſweeteſt Humor of the Body, what think you happens to the Bile, Lymph, *&c.*

Where the Heat and Attrition of the Blood are very conſiderable, its Putrefaction advances ſurpriſingly faſt. It appears from * *Boerhaave*'s Experiment on a Dog, ſhut up in a hot Sugar-

* *Vide Boerhaavii Chem. Cap. de Igne, Experiment* xx. *Corall.* 16.

baker's Stove, that the whole Mass of Humors was corrupted to so high a Degree, in a few Minutes, as to give off an insupportable Stench; and so dissolved, that the very *Saliva* became *bloody*; and so horribly offensive, as to throw a strong Man, concerned in the Experiment, into Faintings.

The animal Humors naturally run into Dissolution and Putrefaction, unless prevented and corrected by daily Supplies of *acescent Aliment*; a Diet merely of Flesh, Fish, Spices, and Water, will very soon bring on a putrid Fever.—*Bread* is not only the *Staff of Life*, as Nourishment, but as it also corrects, by its acescent Quality, the rank Juices of animal Food.——The *Spanish* and *French Prisoners here*, by eating unusual and immoderate Quantities of Flesh, brought on such dangerous Fevers as carried off vast Numbers of them.—They were so fond of it, that they died, as it were, with Flesh in their Mouths frequently.

But thus much for the Generation of *alcalescent Acrimony* in the Blood: Let me add, that it seems to appear, from what is above said, that, in some Cases, the animal Salts are rendered actually alcaline, volatile, corrosive, and destructive of the Blood-globules, as well as the *minima Vascula*, while even Life subsists.—When the animal Oils are also highly exalted and rancid, they unite with these Salts, and make

make a moſt deſtructive diſſolving *Sapo*, much of the Nature of putrid Bile, which corrodes and diſſolves all the Principles of Life.

Now, as, on the one Hand, an *acrimonious State* of Blood may be complicated with too tenſe rigid Fibres, and an *inflammatory Lentor*; ſo, on the other, it may conſiſt with a *thin diſſolved State* of Blood and *weak lax Fibres*.

Let us put Contagion for Acrimony, (for it acts in a like Manner, and eventually proves ſo) and we have the Caſes very juſtly exemplified in the Small-pox: Where the Diſeaſe is ſometimes attended with a very viſcid State of Blood, high inflammatory Fever, violent acute Pains, peripneumonic Symptoms, Phrenzy and the like: Sometimes on the contrary with a weak, diſſolved Blood, a low ſlow Pulſe, or a weak and quick one, nervous Symptoms, thin crude Urine, various and profuſe Hæmorrhages, little or no Pain, Swelling, Soreneſs, or the like. In the former Caſe the Fever runs too high, and burns up the Patient; in the latter there is not Fever enough to make a compleat Protruſion and Maturation of the Puſtules, but they remain ſeſſile, crude and undigeſted; whence at laſt the whole Maſs of Blood runs into a putrid corroſive *Ichor*, or a gangrenous *Sanies*.

Take another View of this Matter.—I have many Times known *pulmonic*, or *pleuro-peripneumonic* Fevers attack Perſons of a very thin acrid

State

State of Blood, which have been attended with a very considerable Degree of Inflammation.— This happens very frequently to scorbutic seafaring Persons.

In the Years 1740 and 1745, Abundance of People were seized with Shivering, then great Heats, Fever and Difficulty of Breathing, importunate laborious Coughs, very acute darting Pains of the Breasts, Sides and Back, and frequently also in the Head and Temples. They had oftentimes a very quick, hard Pulse, but *concentrated* as it were; the Breath was very hot and offensive, and the Matter they expectorated was sometimes thin and crude, and sometimes as yellow as Saffron; but much more commonly a thin, gleety bloody Matter, frequently very fœtid, and sometimes so acrid as to cause a great Hoarseness, and Soreness of the Wind-pipe and Throat, and sometimes Excoriations of those Parts. The Blood drawn from them was either of a darkish livid Colour, covered over with a lead-coloured or greenish thin Film, or sometimes quite florid (particularly on the first Bleeding) but of a loose, soft Consistence when cold; the specious Appearance often surprising the Surgeon, or Apothecary, who expected quite another Appearance of the Blood, considering the Symptoms. However in many of these Fevers, the Blood drawn was covered over with a pretty thick tough Coat,

Coat, not of a whitiſh yellow Colour, as uſual in common pleuritic or pleuro-peripneumonic Blood, but of a Colour approaching to that of a *Cornelian Stone*, or a little more dilute than that of the common Jelly of *red Currants.*— This Colour of the *Buff* on Blood I conſtantly obſerve to be of ill Omen: I conjecture becauſe it indicates both a great Glutinoſity, and alſo a very great Quantity of acrid Salts in the Blood, which break its Globules, and put it into a putrid diſſolving State; for this Appearance ſeems to ariſe from the broken Globules inviſcated by the inflammatory Size. If a Portion of volatile-alcali Salt be mixed with the Blood of a Perſon in a high Pleuriſy, as it runs off from the Vein, the upper Part of the *Craſſamentum* will greatly reſemble that of the Blood, which I have juſt mentioned: And it is further remarkable, that the *Serum* of ſuch Kind of Blood hath very often a *bloody Tinge*, almoſt as high as *Burgundy Wine*; and ſo indeed frequently had the *Serum* of the other Kinds of Blood, tho' many Times it appeared only of a turbid yellow Colour. The Urine was commonly very high, and ſometimes dark-coloured with a Kind of lead-coloured Sediment; it was generally rendered in ſmall Quantities. Faint, uncertain, partial Sweats often attended, particularly about the Face and Head; although many Times, towards the fatal Period, they

were very profuse and colliquative. Livid, or black Spots frequently appeared about the State of the Disease, and I think seldom, or never failed of being the certain Harbingers of Death. The black and brown Thrush, which also sometimes broke out towards the Close, were not of a much more favourable Prognostic. But an universal, burning, itching Rash sometimes terminated the Fever; and sometimes it ended in an Eruption of very large, angry, ulcerating Pustules on the Neck, Shoulders and Arms, but more especially about the Nose and Lips.

But of this Kind of peripneumonic Fever more hereafter, with the Method of treating it, — I shall only at present take Notice, that at the same Time when this malignant Peripneumony, if I may so call it, reigned in *Plymouth*, and its Neighbourhood, Pleurisies, Peripneumonies, and Pleuro-peripneumonies were every-where epidemic, and generally of the true inflammatory Kind, arising from the cold dry northerly and easterly Winds, which had for a long Time prevailed.—In these the Blood was very dense and sizy, and most commonly covered over with a very thick, white, or yellowish Buff; and the Sick bore the Loss of Blood well and to Advantage, even to forty Ounces, or upwards sometimes: Whereas the Blood, in the *malignant pulmonic Fever*, *was as I have above*

described

described it; and, when it was considerably buffy, it had the *above-mentioned Appearance*, and the Patients often sunk surprisingly after the first or second Bleeding; sometimes indeed to my great Concern and Astonishment; when, from the hard Pulse, great Load at Breast, pungent Pain of the Side, and Severity of the Cough, I thought I had sufficient Warranty for advising it.—Besides, tho' *these latter* expectorated pretty large Quantities of crude and thin, or more frequently of a gleety bloody Matter, they were not at all relieved; whereas when the *former* spit off largely and freely, it was of the highest Advantage.

Now I must further take Notice, that, *contemporary with both these Disorders*, a *contagious, putrid, petechial Fever* was very rife in and about this *Town*; especially among the Sailors and Prisoners, and those that were very conversant with them; and it was chiefly among those Sorts of Persons, that the *malignant pulmonic Fever* raged.—So that this seemed to be a Complication of the common inflammatory Peripneumony with the contagious petechial Fever: the *contagious Effluvia* acting on the Blood in the Manner of *acrimonious Salts*, and destroying its *Crasis*.—It is certain we frequently meet with Peripneumonies of this Kind, merely from the sharp acrid State of the Humors of those that are seized with them.

Now

Now these are Fevers, in which an inflammatory Lentor is complicated with a greater Degree of Acrimony, or blended with a Kind of poisonous dissolving *Effluvia*.—But we often meet with others, in which a very high Acrimony of the Humors is combined with a *too lax State* of the Vessels, and too *loosely compacted Blood-globules*; which is the Case very commonly in petechial Fevers, especially such as are attended with Hæmorrhages.

I here beg leave to give the History of such an one, which I think was the severest, that ever any Person suffered under, who survived the Disease:—And the rather, as I shall specify the Method of his Cure; which not only in his Case, but in several others of the like Nature, tho' not Degree, I have experienced to be highly beneficial; and which, I am persuaded, is the only successful Course that can be used in them, however different it may seem from the common Practice.

An eminent Surgeon of a neighbouring Town, of a thin and somewhat tender Constitution, but constantly used to Action and Exercise, and frequently subject to Fevers, and scorbutic Rheumatisms, from taking Cold, *&c.* in *October* 1741, fell into a Kind of slow Fever, attended with slight Rigors, frequent Flushes of Heat, a quick weak Pulse, Loss of Strength and Appetite, with a great Load at his Breast,

Breaſt, and a heavy Sort of Reſpiration.—Notwithſtanding this, he continued in his Buſineſs, conſtantly riding, and fatiguing himſelf for ſome four or five Days after this Seizure.—I met him at a Gentleman's Houſe, who was my Patient; and finding him as above, and that his Breath was, even then, very offenſive, I earneſtly deſired him to take timely and due Care of himſelf.—Two Days after, he, being at a Gentleman's in the Neigbourhood, was taken all on a ſudden with a very great Faintneſs, and fell off his Chair: Upon lifting him up the Company obſerved ſeveral livid and violet-coloured Spots on his Arms and Neck. It was with very great Difficulty they got him Home, tho' but two or three Miles Diſtance, he very frequently fainting by the Way.—The Diſorder encreaſed every Moment, he had a vaſt Languor with Pain and extream Oppreſſion on the Præcordia, and a perpetual Sighing; —his Breath now ſtank abominably, and a fœtid bloody Matter leaked continually from his Gums, and thouſands of livid, violet and black Spots appeared all over his Body, on the Trunk, as well as the Limbs.

He was bled to about ℥xii from his Arm, but this gave him no Manner of Relief, the Oppreſſion, Sighing, Fainting, and Anxiety continuing as bad as ever, nay rather encreaſing;—a violent Hæmorrhage alſo broke forth from

from his Noſe; which continuing from both Noſtrils, he was bled again to ℥x about twelve Hours after the former Bleeding: — neither did this give him any Relief, but encreaſed his Weakneſs conſiderably, and he continued as anxious, reſtleſs, and oppreſſed as ever, without even the leaſt Sleep. The Blood now not only iſſued from his Gums and Noſe, but he alſo coughed up Blood. — Indeed the Bleeding from his Noſe had ceaſed ſomewhat, but it encreaſed from his Gums, and in a ſurpriſing Manner Blood now likewiſe dropped, tho' ſlowly, from the Caruncle of one of his Eyes; and ſeveral livid Puſtules on his Tongue, and withinſide his Lips, broke, and diſcharged a bloody, thin Matter very copiouſly.

The Hæmorrhage being ſomewhat reſtrained, a bloody Dyſentery came on with ſevere Gripes, and exceſſive Faintneſs, and he was ſtill exceeding reſtleſs and very feveriſh: his Pulſe now intermitted every ſixth or eighth Pulſation, and then fluttered on again vaſtly quick; he had likewiſe a conſtant *Tremor* and *Subſultus*. — The Hæmorrhage all this while continued from one Part or other, and when ſtopped at one Place forthwith burſt out at another; ſo that his Urine now ſeemed tinged with Blood, being very dark-coloured, nay almoſt black. Soon after he was bled the ſecond Time, I was ſent for, and haſtened to him. — I found him in the Man-

ner deſcribed, under an inexpreſſible Anxiety, yet quite free from a Delirium, though he had no Manner of Sleep for ſeveral Days and Nights: His Tongue was vaſtly black, and his Breath ſo inſufferably ſtinking, that it was greatly offenſive even at a conſiderable Diſtance; and his Stools were ſo horribly nauſeous and fœtid, that the very Nurſes fell into Vomitings and Faintneſs in carrying them off.

I found that neither of the Portions of the Blood that had been drawn (not even the firſt) had ſeparated into *Craſſamentum* and *Serum* as uſual, tho' the former had ſtood ſo many Hours; but continued as it were half coagulated, and of a bluiſh livid Colour on the Top:—it was moſt eaſily divided by the ſlighteſt Touch, and ſeemed a *purulent Sanies* rather than Blood, with a Kind of a *ſooty Powder* at Bottom. His Hæmorrhage ſtill continued, eſpecially from the Tongue, Lips, and Gums, with a perpetual Dripping of thin bloody Ichor from his Noſe; ſo that he was reduced to an extream Degree of Weakneſs, with never-ceaſing Tremblings, *Subſultus Tendinum*, and almoſt continual Faintings.

What was to be done in this dreadful Caſe? Would the hot, alexipharmac, volatile Cordials and Bliſters have ſerved him, as ſome might have imagined, conſidering his extream Weakneſs, Faintings, Load on the Præcordia, Trem-

blings, *&c*? But would they not have been certainly *deleterious*, would they not have certainly killed him? as they would have added to the ſtimulating Acrimony, encreaſed the Fever, and further deſtroyed the *Craſis* of the Blood, already nearly quite diſſolved, and reduced to a Kind of *putrid Gore*.

I took it in this View, and, as I had experimentally and repeatedly known the great Uſe of the *Bark* * in preventing and ſtopping the Advance of Gangrenes, I gave him frequently of it in ſmall Doſes with *Elixir Vitrioli*, premiſing a ſmall Quantity of *Rhubarb*.---Beſides this he drank Tincture of Roſes, with Cinnamon Water, made very acid, and alſo a Decoction of *Sevil* Orange Rind, red Roſes, Cinnamon, and a little *Japon* Earth (as it is called) well acidulated: Claret, and red Port, with about half Water, he drank at Pleaſure. — As the *Bark* ſat eaſy with him, I continued its Uſe, and encreaſed its Quantity, giving with it ſome *Confect. Fracaſt. ſine melle* to reſtrain the dyſenteric Flux;—and yet I now and then interpoſed a ſmall Doſe of *Rhubarb*, to carry off any bloody, bilious, or ſanious Matter that might be lodged in, or leak into the Inteſtines. In the mean Time I ordered him to be fre-

* Beſides I had formerly given the Bark with Succeſs in the malignant petechial Fever of 1735: *Vid. Obſ. de Aere et Morb. Epidem. Menſe Maio.*

quently

quntly ſupported with Rice, Panado, Sago, Jellies of Harts-horn well acidulated. Toaſt out of Claret, or red Port Wine; and I directed Fomentations of Aromatics and Aſtringents, boiled in red Wine, to be frequently applied to the whole Abdomen.

By this Method, ſteadily perſiſted in, was this poor Gentleman, thro' divine Goodneſs, raiſed from a State of univerſal Rottenneſs, as it were, to perfect Health: Not but that, for a very conſiderable Time after his Fever was quite gone off, he continued extreamly weak; and even after he was capable of walking abroad, the Hæmorrhage from his Noſe would return on the leaſt Occaſion, his Gums would bleed on the ſlighteſt Rubbing, and his Breath continued very offenſive for a long Time.—By the further Uſe of the *Cortex*, *Elix. Vitrioli*, &c. this alſo intirely ceaſed: — But his Legs and Feet continued very much ſwoln for a much longer Time, and his Fleſh all over the whole Body remained exceeding ſoft, tender, and ſore, ſcarce bearing the leaſt Touch.—Rhabarbarate Purges, eaſy ſtomachic Chalybeates, Elixir of Vitriol, *Pyrmont* Water with proper Diuretics, and gentle regular Exerciſe at length carried off all thoſe Symptoms; and in about two or three Months he recovered a good State of Health, which he ſtill enjoys.

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I met with ſeveral of theſe petechial Fevers, with Hæmorrhages in the Summer and Autumn of 1745; particularly a Gentlewoman, of *Anthony* near *Plymouth*, was ſeized with ſuch a Fever, with Symptoms nearly reſembling thoſe in the above-mentioned Caſe, tho' not in ſo high a Degree.—She fell into an immenſe Diſcharge from the *Uterus*, tho' out of Seaſon, after a very profuſe Hæmorrhage from the Noſe; ſhe bled alſo from the Gums, and at laſt had a bloody Dyſentery: She had a ſtrong Phrenzy before the Bleeding from the Noſe came on, and had a vaſt Number of purple and black Spots all over her Body, ſome as large, at leaſt, as a Silver Penny.—I treated her exactly in the Manner aforeſaid, and ſhe happily recovered; tho' her Legs were greatly ſwoln after it, and ſhe continued in a long State of Weakneſs.—She was twice bled before I ſaw her;—the firſt Blood I ſaw not, but Mr. *Freke*, her Surgeon, told me it was very florid and rich (as he called it) but very ſoft, and gave off a very ſmall Quantity of a reddiſh *Serum*: I ſaw the ſecond, which was of a very dark black Colour, covered with a very thin, tender, greeniſh Skin.—Her Urine, during the whole Time of the Fever almoſt, was like white Wine, or Cyder, that ſtands long expoſed to the Air, and turns black; at length however a Kind of a dark-coloured mealy Sediment was depoſited.

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The Fever, which attends Gangrenes, is commonly of this Kind, corrupting and diſſolving the Blood; the ſanious Matter of the gangrened Part, being reſorbed into the Maſs of Blood, produces an univerſal gangrenous Diſpoſition in the Humors, and diſſolves the ſound red Globules; whence Spots, Hæmorrhages, black Tongues, Delirium, &c. ſupervene. *Celſus* * juſtly obſerves that an acute Fever, Delirium, great Thirſt, and ſtinking Breath, accompany a Gangrene; all Signs of Corruption of the Blood and high Acrimony. — I will inſtance but in one Caſe, which, I think, is pretty uncommon in ſeveral Circumſtances.

Mrs. *Eliſabeth S—th* of St. *Germains in Cornwall*, about twenty-five, of a weak Conſtitution and bad Habit of Body, who never had any regular *Catamenia*, was taken at the latter End of *May*, 1742, with a Pain in the right Foot near the Toes, and with a *Torpor* all over the Leg; which hourly encreaſing, ſhe ſent for Mr. *Dyer*, an ingenious Surgeon of *Looe*, who rubbed the Part with camphorated Spirit of Wine, and gave her ſome nervous and cordial Medicines.—This having no Effect, he fomented with a very warm aromatic Decoction, applying the *Magma* with Spirits, Theriaca, &c. to the Leg and Foot; notwithſtanding which

* *Lib. V. Cap.* 26.

the Parts grew soon discoloured, cold and quite insensible.—When I came, I ordered the Parts to be scarified, and that deeply, but not the least Blood issued, only a few Drops of quite black Blood here and there slowly rose up, of the Bigness of a Pea;—the Skin and Flesh looked as if the Leg had been cut off for some Days, tho' this was but in the Forenoon of the *fourth Day* from the very first Seizure.— There were no Vesications, nor did the Scarifications afterwards emit the least Stench, Matter, or *Sanies.* —I immediately ordered her the *Bark* with *Elixir Vitriol. Confect. Ralegh.* and a warm acidulated Julep, which she took freely, as she was vastly faint.—A violent Pain seized her in the Afternoon in her right Thigh and Groin, and forthwith a Fever, severe Gripings, and a bloody Flux, came on, which presently reduced her to the utmost Degree of Weakness, with perpetual Faintings and Agonies.

The ensuing Night she grew very delirious, her Tongue became quite black and faultering, her Pulse exceeding quick, weak and fluttering, with continual Catchings of the Tendons and Tremors.—As the *Cortex* did not sit well, but ran down, I gave her a strong Tincture of it with *Decoct. Fracastor. Elix. Vitriol.* &c. which had a much better Effect.

In this miserable Condition she continued for three or four Days, every one about her hourly

hourly expecting her Death; however the *Sphacelation* did not advance, and never appeared above the Knee, tho' a very vehement Pain affected the whole Thigh, and seemed chiefly in the *Periosteum* of the Bone.—At length there appeared a dark, livid *Streak* or *Line* all round the Limb, immediately under the Knee, and pointed out where Nature was disposed to separate the dead Part from the living. This Tendency to Separation became every Day more and more visible, and the Surgeon used all proper Means to promote it: For whatever Foundation there might have been for an *Amputation*, neither she, nor her Friends, would admit of it.—In these deplorable Circumstances (the dead Part of the Limb daily rotting off from the sound) she continued till *July* the 14th; when the Surgeon, finding the *Slough* cast off, and a Separation at the Joint almost perfectly made, took off with a Knife the dead Leg from the sound Thigh, at the *very Articulation*, with very little Pain, without her Consent, and almost without her Knowledge of it, when it was done.—Soon after this she daily recovered, and by proper Diet, and Medicines, was in a little Time restored to a tolerable State of Health.

CHAP. VI.

Of the Difference between a ſlow nervous, and a putrid malignant Fever.

I Cannot conclude this Eſſay on Fevers, without taking Notice of the very great Difference there is between the *putrid malignant*, and the *ſlow nervous Fever*; the Want of which Diſtinction, I am fully perſuaded, hath been often productive of no ſmall Errors in Practice, as they reſemble one another in ſome Reſpects, tho' very eſſentially different in others.— And this I the rather do now, as I have not ſufficiently noted the Difference in my *Diſſertation de Febribus lentis & nervoſis.*—Nor do I know of any Author, that hath done it explicitly, beſides Dr. *Langriſh* in his *Modern Theory and Practice.*

By what hath been ſaid above, I think, it evidently appears, that in putrid malignant and petechial Fevers the *Blood, peculiarly ſo called*, is affected; whereas the ſlow nervous Fevers ſeem to have their Seat chiefly in the *lymphatic and nervous Juices.* Corruption of the Humors and Diſſolution of the Blood are in a high Degree obſervable in the former; but the ſlow nervous Fever frequently runs on to a great Length of Time, without any conſiderable Signs of Putrefaction.

Beſides,

Besides, these two different Kinds of Fevers may be artificially produced, if I may so speak, by two very different Kinds of Diet, Regimen, &c. and is too often actually effected. The hot, acrid, saline, volatile and spicy Food, and Medicines, very hot Air, &c. will produce a putrid malignant:—On the contrary, cold, watery, slimy, mucilaginous Things, as Cucumbers, Melons, crude trashy Fruit, vapid Liquors, damp cold Air, &c. bring on slow nervous Fevers.

Could we suppose both the one and the other to arise from Contagion, (which is commonly the Case in pestilential and petechial Fevers, and may sometimes be so in the slow nervous) I should liken the Action of the *morbific Effluvia* in the former, to that of the Poison of a Viper, which immediately affects and destroys the Texture of the Blood-globules, and brings on a very speedy Corruption:—But in the latter to the *Virus* of a mad Dog, which works but slowly, and seems primarily to affect the *Lymph*, and *Succus nervosus*, and manifests no Signs of Putridity, at least till the very Close of the Tragedy.

Now as these two Fevers have a very different Origin, they cannot but shew their Effects in different Symptoms, and require a very different Method of Cure;—and yet, I am very sensible, the one may be, and very often is, blend-

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ed with the other; I mean, that a very acrimonious State of Blood may subsist under a very weak relaxed System of Vessels, and may not shew itself with so much Violence, as if the moving Powers and Vessels were more strong and elastic, and much more susceptive of the *Stimulus* of the morbid, acrimonious Salts, *&c.* and of Course more slow in its Progress, tho' perhaps equally fatal. — The different antecedent State of the Fibres, and Powers of Nature, where Contagion is the proximate Cause of the Disease, doth undoubtedly alter the Nature of the subsequent Fever very greatly.—By carefully describing both these Fevers, their Nature and Difference will more fully appear.

CHAP. VII.

Of the slow nervous Fever.

I Begin with a Description of the slow nervous Fever, which hath been very exactly taken from too many, who have fallen Victims to this insidious and dangerous Enemy.

The Patient at first grows somewhat listless, and feels slight Chills and Shudders, with uncertain sudden Flushes of Heat, and a Kind of Weariness all over, like what is felt after great Fatigue: This is always attended with a Sort of Heaviness and Dejection of Spirit, and more or

less

ness of a Load, Pain, or Giddiness of the Head; a *Nausea* and Disrelish of every Thing soon follows, without any considerable Thirst, but frequently with urging to Vomit, tho' little but insipid Phlegm is brought up.

Tho' a Kind of lucid Interval of several Hours sometimes intervenes, yet the Symptoms return with Aggravation, especially towards Night: The Head grows more heavy, or giddy, the Heats greater, the Pulse quicker but weak, with an oppressive Kind of Breathing.—A great *Torpor*, or obtuse Pain and Coldness affects the hinder Part of the Head frequently, and oftentimes a heavy Pain is felt on the Top all along the *coronary Suture*; this, and that of the back Part of the Head, generally attend nervous Fevers, and are commonly succeeded by some Degree of a Delirium.

In this Condition the Patient often continues for five or six Days, with a heavy pale sunk Countenance, seeming not very sick, and yet far from being well; restless, anxious, and commonly quite void of Sleep, tho' sometimes very drowsy and heavy: but although he appears to those about him actually to sleep, he is utterly insensible of it, and denies that he doth so.

The Pulse, during all this Time, is quick, weak and unequal, sometimes fluttering, and sometimes for a few Minutes slow, nay intermitting;

mitting; and then, with a sudden Flush in the Face, immediately very quick, and perhaps soon after surprisingly calm and equal; and thus alternately.—The Heats and Chills are as uncertain and unequal, sometimes a sudden Colour and Glow in the Cheeks, while the Tip of the Nose and Ears is cold, and the Forehead at the same Time in a cold dewy Sweat.—Nay it is very common, that a high Colour and Heat appear in the Face, when the Extremities are quite cold.

The Urine is commonly pale, and often limpid, frequently of a Whey-colour, or like vapid Small-beer, in which there is either no Manner of Sediment, or a Kind of loose Matter, like Bran, irregularly scattered up and down in it.—The Tongue, at the Begining, is seldom or never dry or discoloured, but sometimes covered with a thin whitish *Mucus*;—at length indeed it often appears very dry, red, and chapped, or of the Colour of Pomegranate Rind; but this mostly at the State, or Close of the Disease: yet, however dry the Tongue and Lips seem, the Patient scarce ever complains of Thirst, tho' sometimes of a Heat in the Tongue.

About the seventh or eighth Day the Giddiness, Pain, or Heaviness of the Head, become much greater, with a constant Noise in it, or *Tinnitus Aurium*, which is very disturbing to the

the Sick, and frequently brings on a Delirium. The Load on the Præcordia, Anxiety and Faintness grow much more urgent, and they often fall into an actual *Deliquium*; especially if they attempt to sit up; Coldish Sweats suddenly come on in the Forehead, and on the Backs of the Hands (tho' at the same Time there is too much Heat in the Cheeks and the Palms) and as suddenly go off.—If the Urine now grows more pale and limpid, a Delirium is certainly to be expected with universal Tremors and *Subsultus Tendinum*; the Delirium is seldom violent, but as it were a Confusion of Thought and Action, muttering continually to themselves, and faultering in their Speech: Sometimes they awake only in a Hurry and Confusion, and presently recollect themselves, but forthwith fall into a muttering, dozy State again.

The Tongue grows often very dry at the State, especially in its middle Part, with a yellowish List on each Side, and it trembles greatly when the Sick attempt to put it out.—When the Tongue at this Time grows more moist, and a copious Spitting comes on, it is always a very good Sign:—But where a Difficulty of swallowing, continual *Gulping*, or *Choaking* in the Throat supervene, it is a very dangerous Symptom, especially if attended with any Degree of a *Singultus*.

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Frequently profuſe Sweats pour forth all at once about the ninth, tenth, or twelfth Day, commonly coldiſh and clammy on the Extremities: oftentimes very thin Stools are diſcharged; both the one and the other are generally colliquative and very weakening.—However a warm Moiſture of the Skin is generally ſalutary, and a gentle Diarrhœa frequently carries off the Delirium and comatoſe Diſpoſition.

Now Nature ſinks apace, the Extremities grow cold, the Nails pale or livid, the Pulſe may be ſaid to tremble and flutter rather than to beat, the Vibrations being ſo exceeding weak and quick, that they can ſcarce be diſtinguiſhed; tho' ſometimes they creep on ſurpriſingly ſlow, and very frequently intermit. The Sick become quite inſenſible and ſtupid, ſcarce affected with the loudeſt Noiſe, or the ſtrongeſt Light; tho' at the Begining ſtrangely ſuſceptive of the Impreſſions of either. The Delirium now ends in a profound *Coma*, and that ſoon in eternal Sleep.—The Stools, Urine, and Tears run off involuntarily, and denounce a ſpeedy Diſſolution, as the vaſt Tremblings and Twitching of the Nerves and Tendons are Preludes to a general Convulſion, which at once ſnaps off the Thread of Life.—In one or other of theſe Ways are the Sick carried off, after having languiſhed on for fourteen, eighteen,

teen, or twenty Days; nay, ſometimes much longer.

All Perſons grow deaf and ſtupid towards the End of the Diſeaſe (ſome extreamly deaf) tho' too quick and apprehenſive at the Begining, inſomuch that the leaſt Noiſe, or Light, greatly offended them.—Many, from their immoderate Fears, ſeem to hurry themſelves out of Life, where little Danger was apparent at the Begining; nay ſeveral will not ſuffer themſelves to ſleep, from a vain Fear of dozing quite away; and others from the vaſt Hurry, Anxiety, and Confuſion, they are ſenſible of in it, or at their awaking.—Where the Deafneſs ends in an Impoſtume of the Ear, it is generally a good Symptom; and ſo it is alſo when a *Parotis* ſuppurates, or a large puſtular angry Eruption breaks out about the Lips and Noſe.

This is a Deſcription, (tedious indeed, but pretty exact) of the ſlow nervous Fever in its moſt aggravated Circumſtances: Wherein I have laid down the Symptoms in the Order in which they naturally come on;—and this I think ſhould be always obſerved in deſcribing any Diſeaſe.—It moſt commonly attacks Perſons of weak Nerves, a lax Habit of Body, and a poor thin Blood; thoſe who have ſuffered great Evacuations, a long Dejection of Spirits, immoderate Watchings, Studies, Fa-

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tigue, and the like; and also those, who have used much crude unwholesome Food, vapid impure Drinks, or who have been confined long in damp, foul Air; that have broken the Vigor of their Constitutions by Salivations, too frequent Purging, immoderate Venery, *&c.*— Whence I think it is evident, this Disease arises from a too relaxed State of the Solids, a poor weak Blood, and a *Lentor and Vapidity of the lymphatic and nervous Juices:*—The very Method of Cure shews this, which consists in mild, stimulating, attenuating, and proper Cordial, strengthening Diet and Medicines.—*Hippocrates* somewhere notes, that the successful Method of Cure shews the Nature of the Disease.

Let us now therefore endeavour to shew the properest Method of curing this Fever.

It was another Maxim of the great *Hippocrates*, that whoever knows the Nature of the Disease, knows the Method of Cure *.—It is at least the indispensable Duty of every Physician, before he prescribes for his Patient, to consider well his Constitution, and the Nature of his Disease; for as *Celsus* elegantly says, *Æstimatio causæ sæpe morbum solvit* †.—And this is in no Case more necessary than in Fevers, in which the Time is short, and Experiments dangerous: Where the Disorder doth not attack with great Violence, it is better to wait a little, and ob-

* *Lib. de Arte sub finem.* † *Celsi Præfat. sub finem.*

ſerve the Motions of Nature, than be too precipitant.——But it is rare, that Phyſicians are called in at the very Begining of ſlow Fevers: Indeed they are often too far advanced, 'ere they are conſulted.

From the Hiſtory of the ſlow nervous Fever I think it is very evident, that no great Evacuations are proper (eſpecially Bleeding) particularly in Perſons of originally weak and lax Conſtitutions, who are by far the moſt ſubject to it.—I have known a common Purge, injudiciouſly given at the Begining of this Fever, immediately followed by ſurpriſing Languors, *Syncope*, and a large Train of other ill Symptoms: However it may be neceſſary ſometimes, even at the Begining, to cleanſe the *primæ Viæ* by a gentle Puke, a little *Rhubarb*, *Manna*, *&c*; if you give any Thing *draſtic*, be aſſured your Patient will rue for it, and you will repent it. —And here I cannot but obſerve, that a mild Vomit may be given with much leſs Ruffle to Nature than a common Purge, and indeed is uſeful, nay neceſſary, where Nauſea, Load and Sickneſs at Stomach are urgent; which frequently happen at the Attack of this Fever: —Clyſters of Milk, Sugar, and Salt, may be injected with Safety and Advantage every ſecond or third Day, if Nature wants to be prompted to ſtool.

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The temperate, cordial, diaphoretic Medicines are certainly moſt proper in theſe Fevers; and a well regulated, ſupporting, diluting-Diet is neceſſary: The latter of itſelf, judiciouſly managed, will go a great Way in the Cure, eſpecially aſſiſted by well timed and well applied Bliſters, and a due Care to keep the Patient as quiet as poſſible, both in Body and Mind. But it ſhould be noted, that any ſtrong *Opiates* are commonly very pernicious, however Want of Sleep and great Reſtleſſneſs may ſeem to demand them.—Mild Diaphoretics, as *Pulv. Contrayerv. comp.* with a little Caſtor and Saffron, and ſmall Quantities of *Theriac. Andromachi*, or *Elixir Paregoricum*, have much better Effects: which, by raiſing a gentle eaſy Sweat, or at leaſt a plentiful Perſpiration, calm the Hurry and Tumult of the Blood and Spirits, whence ſoft refreſhing Slumber ſucceeds. Where the Confuſion and Dejection of Spirits are very conſiderable, *Galbanum* or *Silphium*, with a little Camphire, ſhould be added; and Bliſters ſhould be forthwith applied to the Neck, *Occiput*, or behind the Ears: and during all this a free Uſe of thin Wine-whey, ſome pleaſant Ptiſan, or Gruel, with a little ſoft Wine, muſt be indulged. Indeed the Patients, in this Caſe, ſhould drink frequently: though ſuch Quantities may not be neceſſary as in the ardent, or even putrid malignant Fe-

vers,

vers; yet they should be sufficient to carry on the Work of Dilution, support the Sweats, and supply the Blood with fresh and wholesome Fluids, in lieu of the vapid, acrid *Latex*, that is continually passing off.—And I think in this View a thin Chicken Broth also is of Service, both as Food and Physic, especially towards the Decline of the Disorder; and for the same Reason thin Jellies of Hart's-horn, Sago, Panado, are useful, adding a little Wine to them, and the Juice of Sevile Orange, or Lemon.

It is observable, the Sick are never so easy, as whilst they are in a gentle easy Sweat; for this soon removes the Exacerbations of Heat, Hurry, *&c.*—But profuse Sweats should never be encouraged, much less attempted by very strong heating Medicines, volatile alcalious Salts, Spirits, *&c*; especially in the Begining, or Advance of the Fever; for they too much exhaust the *Liquidum vitale*, and are followed by a vast Dejection of Spirits, Tremors, Startings of the Tendons, and sometimes end in *Rigors*, cold clammy Sweats, *Syncope*, or a comatose Disposition.—Sometimes irregular, partial Heats and Flushes succeed, with great Anxiety, Restlessness, Delirium, Difficulty of Breathing, and a vast Load and Oppression on the *Praecordia*; so as to incline the less cautious Observer to think there may be something pe-

ripneumonic in it :— but even here beware of Bleeding, for you will find the Pulſe very ſmall and unequal, though very quick : Not only the Weakneſs and Fluttering of the Pulſe contraindicate Bleeding, but alſo the pale, watery, limpid Urine, which is commonly attendant. Theſe Symptoms denote the Load, Anxiety, and Oppreſſion on the *Præcordia* to be from the nervous *Orgaſm*, not from a peripneumonic Obſtruction, or Inflammation : The Breathing in this Caſe, though thick and laborious, is not hot, but a Kind of a ſighing, or ſobbing Reſpiration, nor is there many Times any Kind of Cough concomitant ; ſo that this is really from ſome Degree of Spaſm on the Vitals, not from Inflammation.—And this is very manifeſt in hyſteric Paroxyſms.

Here therefore the nervous cordial Medicines are indicated, and Bliſters to the Thighs, Legs, or Arms.—I commonly uſe the following *Bolus* and *Saline Draught.*

℞ *Pulv. Contrayerv. c. gr.* xv. * *Croc. Anglic. gr.* iii. *Confect. Ralegh.* ℈i. *Syr. Croci q. ſ. m. f. Bolus.*

℞ *Sal. C. C.* ℈ſs. *Succ. Limon.* ʒiii. *Aq. alexet. ſimpl.* ℥iſs. *m. peractâ effervеſcentiâ adde Sp. Lavend. c. Syr. Croci ana* ʒiſs. *m. f. Hauſt.*

* *When vaſt Tremors and Subſultus Tendinum come on, I uſe Muſk* ℈ſs *inſtead of the* Pulv. Contrayerv. *c. with great Succeſs.*

These,

These, or the like, I order every 5th, 6th, or 8th Hour, and a temperate cordial Julep; *Spiritus volatilis aromat.* or *fœtidus* may be now and then given out of thin Wine, or Cyder-whey, or, which is in many Cases better, out of thin Mustard-whey; which, without any more pompous *Apparatus*, is not a contemptible Medicine, especially for the Poor. These gently stimulate the torpid Vessels, and raise their oscillatory Powers; they attenuate the Humors and dilute them, and by these Means promote easy relieving Sweats, which soon carry off the *Erethism*, as the Ancients called it.—The Saline Draught, prepared as above, is much more apt to pass by the Pores of the Skin than when made with Salt of Wormwood, which rather moves through the urinary Passages.—When I assert, from repeated Experience, the Use of the above described Draught in asthmatic Cases, any one may easily judge of its Efficacy in these.

But to return, this Difficulty of Breathing, Anxiety and Oppression, many Times precede a *miliary Eruption*, which often appears the seventh, ninth, or eleventh Day of this Fever, and sometimes later: — Indeed great Anxiety and Oppression on the *Præcordia* always precede pustular Eruptions of any Kind, in all Sorts of Fevers.— Every one must know how ill-timed and improper Bleeding would be on such an Occasion, when the greatest Care should

be taken not to retard Nature's Operation in this particular, which is many Times compleatly critical: On the contrary it should be promoted by soft, easy Cordials, proper Diluents and the like; and to these sometimes a little *Theriaca Andromachi*, or *Elixir Asthmaticum*, should be added; which not only tend to calm the universal Uneasiness commonly complained of, but also very effectually promote a *Diaphoresis*, or breathing kindly Sweats, with which the miliary Eruptions freely and easily advance.

But however advantageous these commonly are, profuse Sweats are seldom or never so, even though attended with a very large Eruption; for I have known two or three Crops of miliary Pustules succeed one another, and large Sweats, long continued, with no Manner of Relief to the Patients; nay of very great Detriment, as they reduced them to an extream Degree of Weakness.—In Truth these large Sweats are much more commonly *symptomatical* than critical, and the consequent Eruption is very often the mere *Symptom* of a *Symptom*; for the miliary Glands of the Skin appear very turgid, and *mimic a Rash* upon profuse Sweating, even in the most healthy.

In such profuse, colliquative Sweats, I have very frequently given a little generous red Wine, (diluted somewhat, if necessary) with the greatest Advantage; it presently modera-

ting the Sweat, supporting the Patient, and keeping up also the miliary *Papulæ*, if they happen likewise to attend.—*Celsus* advises *Vinum austerum meraculum in morbo cardiaco* *, which I take to have been a Species of nervous Fever with colliquative Sweats.—Towards the Decline of the Fever, where the Sweats are abundant and weakening, I moreover give small Doses of the Tincture of the Bark with Saffron and Snake Root, hereafter described, interposing now and then a Dose of Rhubarb to carry off the putrid *Colluvies*, in the first Passages; which withal makes the *Remissions*, or *Intermissions*, which frequently happen in the Decline of nervous Fevers, more distinct and manifest, and gives a fairer Opportunity for Preparations of the *Bark*. — I generally give it, about this Time, out of the saline Draughts made with Salt of Wormwood and Juice of Lemons, which makes them much more effectual. I am persuaded this Method will shorten these Fevers, even those with miliary Eruptions, which too often run on to an exceeding great Length, and are frequently attended with dangerous Relapses.—I have more than once known Patients sink under this Fever, after having been kept in a sweating Method for five or six Weeks together, and after having gone thro' three or four successive Crops of miliary Erup-

* *Lib. III. Cap.* 19.

tions (as they were called) they all the while melting away, and weltering in their own Sweat, and the Bed rotting under them.

Though a gentle Diarrhœa is sometimes of manifest Service towards the End of this Fever, crude, thin, colliquative Stools are very far from being so, but sink the Sick surprisingly fast: Where they are livid, or of a Kind of lead Colour, whatever be the Consistence, it is a dangerous Appearance.

There is no Evacuation of a more favourable Portent than a pretty free Salivation, without *Aphthæ*; where this happens, with a kindly Moisture of the Skin, I never despair of my Patient, however weak and stupid he may seem:—Indeed the Deafness many Times makes the Sick, at the Close of the Distemper, appear much less sensible than they really are; not but that many, under these Circumstances, escaping the Grave, degenerate into mere Idiots.

Under any of these Evacuations plentiful, supporting, diluting Nourishment is absolutely necessary to keep up the Spirits, and repair the Loss of the daily wasting Juices, and mend the remaining: Indeed, when the Patients are too heavy and stupid, they should be very frequently prompted to it; for it is even altogether as necessary as Medicine.

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We have very seldom any Thing compleatly critical in this Fever; in many Cases only Time itself seems to wear it off. The Urine is scarce ever concocted, but crude, pale and thin thro' the whole Course of the Disorder, and frequently much too profuse; sometimes indeed, after the Exacerbations, or in the Sweats, it is higher coloured, but without Sediment, small in Quantity, and commonly greasy as it were.

It seems to me evident, that too great a Lentor of the lymphatic and most exalted Juices of the Body, is one of the conjunct Causes of slow nervous Fevers; and I conceive, that as the *Serum*, when once coagulated by feverish Heat, never resolves into any Fluid fit for the Uses of the animal *Œconomy*, but turns into an acrimonious *Putrilage*; so the ropy, stagnant Lymph corrupts by Degrees into a putrid *Ichor*, which must be discharged from the Body by its common Outlets, or some artificial Drains. Though the Pores of the Skin, and the salival Ducts, are found in general to be the most advantageous Ways; yet it often partly runs off also by the Intestines and urinary Passages.—Now though these Discharges are many Times very profuse, it is found by Experience, they are not to be too hastily suppressed, without causing a very dangerous Translation of the morbid Matter on the vital Parts: A sudden Check of the Sweats being most

most commonly attended with convulsive Rigors, vast Uneasiness and Oppression on the *Præcordia*, *Syncope*, &c ;—as *Nausea*, Sickness at Stomach, Colics, and a Delirium are the common Effects of potent Astringents prematurely administered.——Nay the Blisters in this Case are not to be hastily dried up; the more they discharge generally so much the better; and even if they ulcerate somewhat, it is commonly no unfavourable Symptom; for though it may shew the Acrimony of the Humor drained off, it is a Proof that Nature hath Strength enough to expel it :—So that, when the first Blisters begin to heal up, others should be applied to other Parts; for it is not merely from the *Stimulus*, but also from the Drain they make, that they are serviceable.——The large angry Pustules, that often break forth at or after the State of this Fever, and frequently ulcerate and run largely, are a Kind of natural Blisters, which give Vent to the putrid corrosive *Ichor*, and sufficiently indicate one Way of giving Nature Relief.

Upon the whole then, where any of these Discharges are very immoderate, they may be prudently restrained, but not repelled: and therefore cold Air, cold Linnen, cold Liquors, or a cold Regimen, are greatly improper.—And yet to be always labouring by very hot Cordials, volatile alcalious Salts, and very hot Air

Air to raiſe Sweats, and to continue them is really melting, not mending your Patient. And as to a vaſt Number, and repeated Eruptions, of the *white and red miliary Pimples*, they not only ſhew the Quantity of the Diſeaſe (as we call it) but many Times alſo the wrong Meaſures of the Phyſician. Do we ſucceed the better for throwing out a vaſt Number of the Small-pox by a very hot Regimen? And yet the latter bids much fairer for a compleatly critical Diſcharge than the former.—And I appeal to all experienced Phyſicians, whether ever they ſaw large and profuſe Sweats of any Service in the Small-pox, or Meaſles: I am ſure I have very many Times found them highly detrimental.

I have been the larger on this Head, as I am fully perſuaded, the common Method of treating miliary Fevers by very hot, ſweating Medicines, and Regimen hath been the Bane of Thouſands. — In a Word, whether in miliary Fevers, or the ſlow nervous without Eruptions, the ſole End of Medicine ſhould be to aſſiſt Nature in her Operations, and ſupport her under them; but in ſuch Manner as may comport with the general Laws of the animal Œconomy; promoting by Art, where the Diſcharges are deficient by Nature, or reſtraining when profuſe and inordinate; taking Care at the ſame Time never to pervert, in any par-

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ticular Diſeaſe, any particular *Criſis*, which by juſt Obſervation, and long Experience, hath been found regular, conſtant and ſalutary, but always to favour it.—Thus, to give an Inſtance in the Fever now treated of; when a *Diarrhœa* happens too profuſe, it may be reſtrained by a gentle cordial Opiate, as *Theriaca Andromachi*, or the like, which by quieting the Irritation, and promoting the cuticular Diſcharge, moderates the Flux; for gentle, eaſy breathing Sweats are always found advantageous.—To ſtop it at once, by very ſtrong Aſtringents, is to pervert Nature's Endeavours, as they tend to prevent both Stool and Sweat.—But whoever will be more fully informed of the Method of treating the ſlow nervous Fevers, may conſult a late judicious Treatiſe of Sir *Richard Manningham* on the *Febricula*, &c.

CHAP. VIII.

Of putrid, malignant, petechial Fevers.

LET us next take a View of the putrid, malignant, or peſtilential, petechial Fevers, and then proceed to offer ſome few Directions as to the Method of Cure.

The highly putrid, malignant, and even petechial Fevers many Times ariſe from mere antecedent Acrimony of the Blood, agitated

by the ſupervening Fever, yet generally the peſtilential and petechial have their Origin from Contagion; and may therefore affect Perſons of all Conſtitutions, which will of Courſe produce a great Diverſity in the Symptoms.— For, as the received Contagion acts nearly in the ſame Manner as Acrimony, it will have very different Effects, when it invades a ſtrong vigorous Conſtitution, and a rich ſizy Blood, from what it will, when it attacks a weak, lax Habit with a poor thin Blood, and a too looſe *Craſis* of its Globules; and from one and the other, when it falls in with a very acrimonious Maſs of Humors.

In general however theſe Fevers attack with much more Violence than the ſlow nervous, the *Rigors*, if any, are greater (ſometimes they are very great) the Heats much ſharper and permanent, yet at firſt ſudden, tranſient and remittent: The Pulſe more tenſe or hard, but commonly quick and ſmall, though ſometimes ſlow and ſeemingly regular for a Time, and then fluttering and unequal.—The Head-ach, Giddineſs, *Nauſea* and Vomiting are much more conſiderable, even from the very Beginning.— Sometimes a ſevere fixed Pain is felt in one or or both Temples, or over one or both Eye-brows, frequently in the Bottom of the Orbit of the Eyes. — The Eyes always appear very full, heavy, yellowiſh, and very often a little inflamed

inflamed. The Countenance ſeems bloated and more dead-coloured than uſual.—Commonly the temporal Arteries throb much, and a *Tinnitus Aurium* is very troubleſome: A ſtrong Vibration alſo of the carotid Arteries comes on frequently, in the Advance of the Fever, tho' the Pulſe at the Wriſt may be ſmall, nay even ſlow: This is a certain Sign of an impending Delirium, and generally proceeds from ſome conſiderable Obſtructions in the Brain.

The Proſtration of Spirits, Weakneſs and Faintneſs are very often ſurpriſingly great and ſudden, tho' no inordinate Evacuation happens; and this too ſometimes when the Pulſe ſeems tolerably ſtrong. — The Reſpiration is moſt commonly laborious, and interrupted with a Kind of Sighing, or Sobbing, and the Breath is hot and offenſive.

Few or none of theſe Fevers are without a Sort of *Lumbago* or Pain in the Back and Loins; always an univerſal Wearineſs, or Soreneſs is felt, and often much Pain in the Limbs.— Sometimes a great Heat, Load and Pain affect the Pit of the Stomach, with perpetual Vomiting of *porraceous*, or *black Choler*, and a moſt troubleſome *Singultus*; the Matter diſcharged is frequently of a very nauſeous Smell.

The Tongue, tho' only white at the Begining, grows daily more dark and dry; ſometimes of a ſhining livid Colour, with a Kind

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of dark Bubble at the Top; ſometimes exceeding black; and ſo continues for many Days together; nor is the *Tinge* to be got off many Times for ſeveral Days, even after a favourable Criſis: At the Height of the Diſeaſe it generally becomes vaſtly dry, ſtiff and black, or of a dark Pomegranate Colour.—Hence the Speech is very inarticulate, and ſcarce intelligible.

The Thirſt, in the Augment of the Fever, is commonly very great, ſometimes unquenchable; and yet no Kind of Drink pleaſes, but all ſeems bitter and mawkiſh: At other Times however, one is amazed to find no Thirſt complained of, tho' the Mouth and Tongue are exceedingly foul and dry; this is always a dangerous Symptom, and ends in a Phrenzy, or Coma.—The Lips, and Teeth, eſpecially near the State, are furred up with a very black tenacious *Sordes*.

At the Onſet of the Fever the Urine is often crude, pale and vapid, but grows much higher coloured in the Advance, and frequently reſembles a ſtrong *Lixivium*, or *citrine Urine tinged* with a very ſmall Quantity of *Blood*; it is without the leaſt Sediment, or even Cloud, and ſo continues for many Days together: by Degrees it grows darker, like dead, ſtrong, high-coloured Beer, and ſmells very rank and offenſive.—I have frequently ſeen the Urine, in petechial Fevers, almoſt black, and very fœtid;

fœtid; particularly that of one Mr. *Shirley*, a Sea-Surgeon, was almoſt quite black, with a Sediment as dark as Soot: He had Abundance of very black Spots, *Vibices*, bloody Dyſentery, and comatoſe Phrenzy, and died about the thirteenth Day.

The Stools, eſpecially near the State, or in the Decline of the Fever, are of the moſt Part intolerably ſtinking, green, livid, or black, frequently with ſevere Gripes and Blood.—When they are more yellow, or brown, the leſs Danger; but the higheſt, when they run off inſenſibly of whatever Colour. It is likewiſe a very bad Symptom, when the Belly continues hard, ſwoln, and tenſe after profuſe Stools; for this is generally the Conſequence of an Inflammation, or Mortification of the Inteſtines. —A gentle Diarrhœa is often very beneficial, and ſometimes ſeems the only Way Nature takes to carry off the morbific Matter.

When black, livid, dun, or greeniſh Spots appear, no one doubts of the Malignity; the more florid however the Spots are, the leſs is to be feared; it is a good Sign, when the black, or violet *Petechiæ* become of a brighter Colour.—The large black, or livid Spots are almoſt always attended with profuſe Hæmorrhages.—The ſmall duſky brown *Spots*, like *Freckles*, are not much leſs dangerous than the livid and black; tho' Fluxes of Blood do but

ſeldom

feldom accompany them : Exceffively profufe, cold, clammy Sweats are often concomitant, by which alfo they fometimes vanifh, tho' without any Advantage to the Patient.—The Eruption of the *Petechiæ* is uncertain, fometimes they appear the fourth or fifth Day, fometimes not till the eleventh, or even later.—The *Vibices*, or large livid, or dark greenifh Marks, feldom appear till very near the fatal Period.—We frequently meet with an Efflorefcence alfo, like the Meafles, in malignant Fevers, but of a more dull and lurid Hue, in which the Skin, efpecially on the Breaft, appears as it were marbled, or variegated : This in general is an ill Symptom, and I have often feen it attended with very fatal Confequences.

Sometimes about the eleventh or fourteenth Day, on the coming on of profufe Sweats, the *Petechiæ* difappear, and vaft Quantities of fmall *white*, *miliary Puftules*, break out : I have feldom feen this of very confiderable Advantage ; but, if an itching, fmarting, *red Rafh*, it commonly greatly relieves the Sick ; and fo do the large, fretting, watery Bladders, which many Times rife up on the Back, Breaft, Shoulders, *&c.* A *fcabby Eruption* likewife, about the Lips and Nofe, is certainly one of the falutary Symptoms ; and the more hot and angry, it is fo much the better. — But of much more uncertain and dangerous Event are the brown

dark-coloured *Aphthæ*; nor are thoſe that are exceeding white, and thick like *Lard*, of a very promiſing Aſpect.— They are ſoon ſucceeded by great Difficulty of ſwallowing, Pain and Ulceration of the *Fauces*, *Œſophagus*, &c. and with an inceſſant *Singultus*: The whole *primæ Viæ* become at laſt affected, a bloody Dyſentery comes on, followed by a Sphacelation of the Inteſtines; as is evident from the black, ſanious bloody Stools, horribly fœtid, and extreamly infectious.

Vibices, or large black and bluiſh Marks reſembling Bruiſes, are frequently ſeen towards the Cloſe of the Fever; and, when attended with Lividity and Coldneſs of the Extremities, are certain Tokens of approaching Death: I have ſeen the Blackneſs reach almoſt to the very Elbows, and the Hands dead-cold for a Day or two before the Death of the Patient.—— A remarkable Inſtance of this Kind I met with ſome few Years ſince in one Mrs. *Hopkins*, to whom I was called the ſeventh Day of her Illneſs. She was ſtupid and ſomewhat delirious, perpetually ſighing, as if under the Extremity of Grief, and complaining of infinite Load and Oppreſſion at her Heart. She had a very quick, ſmall, trembling, unequal Pulſe, and a ſhort, catching, laborious Breathing; ſhe had had no Manner of Sleep for a long Time, and yet lay ſtupid; ſhe had no great Heat, tho' inſatiably

tiably thirſty ; the Tongue was not very dry but blackiſh, her Throat was ſomewhat ſore, and ſhe ſwallowed with Difficulty: Her Eyes were ſtaring, fixed and inflamed.—The eighth Day ſhe had exceeding profuſe Sweats, her Tongue grew quite black, or rather livid, and extreamly dry: In the Evening the *Catamenia* broke forth and became very immoderate, (ſhe was a Nurſe, and this was the firſt Time they appeared ſince her Delivery) the Sweats continued, and were of a very ill Smell. The ninth they diſcovered *Vibices*, or large black Spots on ſeveral Parts of her Body, one in particular on the Top of her Noſe, and another on the Bridge of it, which turned quite black, as did a large Blotch on each Cheek nearly of the Breadth of a Crown-piece.—The tenth the *Catamenia* ceaſed, ſhe fell into a violent Purging, her Belly ſwelled exceedingly. Her Nails and Hands grew very black, and as cold as Marble: The Urine and Stool ran off involuntarily, ſhe lay altogether inſenſible till the eleventh Day, and then died. —An intolerable Stench aroſe from her at leaſt forty Hours before her Death, tho' kept clean with all poſſible Care.

I am very ſenſible, the Word *malignant*, as applied to Fevers, hath of late Years fallen into very great Diſrepute, and probably it hath been often made Uſe of to cover Ignorance, or magnify a Cure.—But there is really a Foun-

dation in Nature for ſuch an Appellation, at leaſt for ſome Word, that may diſtinguiſh ſuch a Diſeaſe, as I have been now deſcribing, from a common inflammatory Fever; indeed the very Term *inflammatory Fever* ſuppoſes there are other Kinds of Fevers. — It is perhaps indifferent whether you call them putrid, malignant, or peſtilential;— when *Petechiæ* appear, every one calls them ſpotted or petechial, — and, if from Contagion, contagious.— I will contend with nobody about Words, but it is neceſſary we ſhould have ſome to communicate our Ideas, and, where they are well defined, no one hath great Reaſon to quarrel with them.

I have the utmoſt Honour for the Memory of the great *Sydenham*; and yet, I muſt ſay, had he not treated all Fevers as merely inflammatory, even the Plague itſelf, his Practice had been more univerſally juſt and imitable, as being extreamly well adapted to thoſe, that depend on an inflammatory Lentor.—But ſurely it is not always to be followed, even in the Small-pox, which in general he hath admirably well deſcribed and moſt judiciouſly treated.— Without all Doubt there are Fevers, that require ſomething more than the Lancet, ſmall Beer and a Purge. Is the low nervous Fever to be treated ſo? Are ſome Kinds of Small-pox and petechial Fevers, the miliary, *&c.* to be

ſo managed? I appeal to all experienced and rational Practitioners.—But Honour to whom Honour is due: He juſtly oppoſed and exploded the hot, ſweating, fiery Regimen, which was then commonly uſed in all Kinds of Fevers, and introduced proper Evacuations, and the cooling diluting temperate Regimen: A Method moſt certainly right in all Kinds of inflammatory and ardent Fevers. — Yet mere Evacuations, and cold watery Diluters will not indifferently ſuit all Sorts of Conſtitutions and Fevers.—But Oppoſition is commonly carried too far, and a favourite Notion may ſometimes lead one to *extinguiſh almoſt the vital Flame*, and *another* to fire the Fabric, leſt the *deleterious Miaſmata* ſhould make a Lodgment in it.

If a Fever be an Effort of Nature to throw off ſome offending, or morbid Matter, as moſt certainly it is, ſurely it will not be always proper to check it.—The hot Fit of a Tertian, by attenuating the Lentor of the Humors, and removing the Obſtructions in the Extremities of the capillary Arteries, terminates the Paroxyſm.—Improper Bleeding and Purging often protract it greatly, and make it both anomalous and dangerous.—When the Contagion of the Small-pox is received into the Blood, it produces a Fever, which in a mild Kind of them ſoon ends in a compleat Eruption, and thence ceaſes; the Fever, or the Effort of Na-

ture, having expelled the morbific Matter.— But many Times from profuſe Evacuations, immoderate Fear, Sinking of the Spirits, and improper Management, ſhe hath not ſufficient Vigor to expel the Diſeaſe by a proper *Criſis*; but the Puſtules are pale, wan, ſeſſile, and remain crude and without any regular Maturation.—And this often is the Caſe in other eruptive Fevers, even the Plague itſelf.

The Reaſon we have to bleed therefore, in the Begining of ſuch Fevers, is to prevent the Fever from running too high, and producing Inflammations of the Brain, Lungs, or other vital Parts; which a great Fulneſs of rich, denſe Blood, violently moved and heated, is very apt to bring on.—In Truth Bleeding in a contagious Diſeaſe, as ariſing merely from Contagion, ſeems not indicated; becauſe the Contagion is intimately mixed with the Humors, and, by drawing off a ſmall Part of the Blood, you very little leſſen the whole Contagion, which will have its Effect, more or leſs, whether you bleed, or bleed not. — And we find, by the Experiment of Inoculation, that the leaſt Quantity of the variolous Matter, introduced into the Blood, will produce the Small-pox: And we ſee the ſame in other Caſes, whether the Bite of a Viper, or mad Dog; in the latter of which, by the bye, a ſmall Wound is generally found worſe than

than a large lacerated one; becaufe this gives a more free Vent again to the Poifon.

When you have intimately mixed any Ferment with a Liquor to be fermented, you cannot deftroy the Fermentation by drawing off Part of the Liquor; for every Part of the Liquor, when in Fermentation, is a Ferment; fo Contagion received into the Blood operates on, and in every Part of it. —— By cooling indeed, adding Acids, *&c.* you may moderate the Fermentation; and, when it is too violent, you may prevent the Splitting of the Veffel (if too full and clofe fhut) by giving proper Vent: So in contagious Fevers, by drawing off Blood you may leffen its Quantity, and prevent it from over-diftending, inflaming and rending the Veffels, and leffen the Heat: which might otherwife very greatly augment the Force of the Contagion, and turn the whole Mafs of Humors into a mere inflammatory Glew.——But if, to carry on the *Simile*, you cool the fermenting Liquor too much, and prematurely fupprefs the Fermentation, you render the whole vapid and ropy, and it never purifies itfelf by a proper *Defpumation*, or becomes a good, vinous Liquor.— Thus when Contagion is received, if you weaken the Powers of Nature too much by Bleeding, *&c.* and hinder her Operations in *defpumating* (as *Sydenham* calls it) the morbid Humors; you concentrate the Difeafe, which

turns the whole Mafs of Blood into a putrid *Ichor*, or *Sanies.*— However, as Bleeding may leffen the Fewel, tho' it doth not extinguifh the contagious Fire, it is highly proper where there is a Redundance of Blood. — But yet the Infection will have its Effect; and I have feen as numerous, and as bad a Kind of Small-pox, after profufe Bleeding, as ever I did when it had been omitted.—It is certain moreover that the Plague, which ftands firft in the Lift of contagious Fevers, will very feldom bear Bleeding, to any Degree at leaft, as appears from the very beft Authorities.

But let us finifh this Chapter with a few Words on the curative Intentions, proper in the Fevers, which it particularly treats of. — And here firft let me note, that tho' malignant and peftilential Fevers, at the very Onfet, greatly fink the Spirits, and caufe furprifing and fudden Weaknefs, efpecially when from Contagion; yet Bleeding to fome Degree is moft commonly requifite, (nay neceffary in the Strong and Plethoric) not only to leffen the *Moles movenda*, and give a freer Play to the ofcillating Veffels; but alfo to prevent any inflammatory Obftructions, which may form in the very Begining, and likewife to moderate the Friction and Heat, which are often very confiderable for the firft Days of the Diforder, and which more and more exalt the Salts and Sulphurs of the Blood, encreafe

encreaſe the Acrimony, and putreſcent State of the Humors, and greatly favour the Action of the morbific Matter.—This therefore, when indicated, ſhould be done as early as poſſible.—A quick tenſe Pulſe, ſharp Heat, great Difficulty of Breathing, Palpitation of the Heart, and violent Pain on the Head and Back evidently demand it.—But it ſhould be duly obſerved, that tho' a *Rigor* precede the Heat, and the Oppreſſion on the *Præcordia* be very conſiderable; yet much leſs Blood ſhould be taken off than in a true Peripneumony, which oftentimes makes its Attack much in the ſame Manner: But the ſudden Weakneſs and great Dejection of Spirits, the Trembling of the Hands, the Paleneſs and Crudity of the Urine, together with the Abſence of a Cough, and Heat of the Breath, which attend true peripneumonic Fevers, diſtinguiſh the one from the other. Beſides this Affair is leſs liable to be miſtaken, when putrid, peſtilential, or petechial Fevers are common, and the Conſtitution of the Air diſpoſeth to them.—Whatever be the Caſe, the Blood drawn will ſoon ſhew the Difference, which, in malignant Fevers, is of a much more looſe Contexture and ſofter Conſiſtence (tho' it may appear very florid) than that of pleuritics, or peripneumonics; which tho' it may, at the firſt Bleeding, appear very bright, and without a tough white Pellicle on it, eſpecially if it trickles down the Arm,

Arm, and doth not run off in a full Stream, yet when cold it will form into a very firm and denſe *Craſſamentum*.—When you find it quite otherwiſe, be cautious, in all Caſes, and not too prodigal of the vital Fluid.

Now, though it may be neceſſary to bleed the Strong and Robuſt at the very Begining of contagious Fevers, yet we ſhould have a very careful Regard to the Nature of the Fever, as ariſing from Contagion, which ſeems to affect not only the *Blood*, but primarily alſo the *animal Spirits*: I think the ſudden Damp, Weakneſs, Tremblings, and great Dejection of Spirits, at the very Attack, evidently ſhew it.—In ſome Plagues Perſons have been ſtruck dead as with a Blaſt of Lightning, without any precedent Fever, or even Indiſpoſition.—It is impoſſible to account for the immediate Operation of the Bite of a Rattle-ſnake, which kills often in leſs than a Minute or two, on any other Suppoſition; nor for the ſurpriſingly ſudden Effect of ſome Smells, on ſome Perſons, which almoſt inſtantaneouſly throw the whole Frame of Nature into the utmoſt Confuſion, and even Convulſion.—The now well-known Effects of the Stroke of *electric Effluvia* not only ſeem to confirm this Notion, but alſo ſhew the analogous Manner in which it is done.—Whoever would ſee more of this, may conſult the

the illustrious Dr. *Mead's Introduction to the third Edition of his Essay on Poisons.*

But the Nerves and animal Spirits, being affected by the contagious *Miasmata*, do not sufficiently and regularly actuate the muscular Fibres and Vessels; whence arises great Debility, and too weak a Vibration of the vascular System; and hence the Blood in some Places runs into grumous Concretions, and in others is quite dissolved.—The Heart and its Auricles are found vastly distended with grumous Blood in those that die of the Plague, the Blood recoiling upon the Heart, which hath not sufficient Power to protrude it; but yet the Blood in the other Vessels appears vastly thin and dissolved, insomuch that it frequently runs off *quà data porta*: *Timoni* * and others observe that it is exceedingly difficult to stanch it at the Orifices made by Bleeding and Cupping.—This I have likewise many Times observed in common petechial and pestilential Fevers.

From the peculiar Disposition of the nervous Filaments, and that of the most subtle and exalted Part of the animal Fluids, which so greatly differs in different Persons, arises that astonishing Diversity of Affections even from the very same Cause.—The Smell of an Herb, Flower, Musk, that refreshes thousands, makes some particular People faint.—The Stroke of

* *See* Philosoph. Transact No 364.

electric

electric Effluvia affects different Persons in a very different Manner, at least in very different Degrees; probably not only from the different *Crasis* of the animal Spirits, but also from the different Tension, Strength, *&c.* of the nervous *Fibrillæ*: As musical Strings, of different Length and Tension, will be very differently affected by the same Note.—It may perhaps, in Part, be owing to the peculiar Disposition of the Nerves and animal Spirits, that some are very readily infected by the Plague, Small-pox, *&c.* and some never, although Multitudes suffer around them.

But be this as it will, the Contagion certainly weakens the Force of the Solids, and tends to dissolve the Blood; so that, when we have a Suspicion that a Fever arises from Contagion, we should proceed with Caution in letting Blood, even though the Symptoms may run pretty high at the Begining, and seem to demand the Taking off a pretty-large Quantity.—In malignant Pleuro-peripneumonies and Peripneumonies I have too often seen, and been sorry for very untoward Mistakes in this Matter, particularly in the Years 1740, 1741, and 1745:—And therefore, though the first Bleeding may be very proper, the subsequent may not be so, nay pernicious.——The first Blood frequently appears florid, what is drawn twenty-fours Hours after is commonly livid, black,

and

and too thin, a third Quantity livid, diſſolved, and ſanious.—This is frequently the Caſe in malignant petechial Fevers: I have ſometimes obſerved the *Craſis* of the Blood ſo broken as to depoſit a black Powder, like Soot, at the Bottom, the ſuperior Part being either a livid Gore, or a Kind of dark green, and exceedingly ſoft Jelly.—Beſides, the Pulſe, in theſe Caſes, ſinks oftentimes ſurpriſingly after a ſecond Bleeding, nay ſometimes after the firſt: And this I have more than once noted to my great Concern and Aſtoniſhment, and that even where I thought I had ſufficient Indications from the Pulſe, &c. to draw Blood a ſecond Time.—So neceſſary is it therefore to have a due Regard to the peculiar Nature of an epidemic Fever.

Scarce any infectious Fever makes an Attack on any Perſon, without bringing on a Sickneſs at Stomach and Vomiting. As the morbific *Effluvia* are ſwallowed with the *Saliva*, &c. may they not, in Part at leaſt, be waſhed off and rejected, by co-operating with Nature, in promoting the Vomiting?—By which alſo any bilious, acrid, putrid *Colluvies*, that may lie in the Stomach, is carried off; which otherwiſe, by growing more and more corrupt, would produce a Variety of ill Symptoms, and greatly encreaſe the original Diſeaſe.—Beſides, Nature many Times ſtrives in vain to diſ-

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charge by Vomit without the Aſſiſtance of Art, and yet as violently, as when a proper *Emetic*, and a *proper Waſh*, are made Uſe of: Nay drinking ſomething to promote the Vomiting makes it both much eaſier, and much more effectual, and by carrying off the irritating Matter tends greatly to ſtop the Vomiting. But then I would have this done always by very gentle Means, ſuch as Infuſion, or Decoction of *Ipecacoanba*, *Oxymel ſcilliticum*, with a ſlight Infuſion of Chamomile Flowers, or the like.—The Method of Vomiting by mere warm Water I do not approve of, as you are oftentimes obliged to ſwill down immenſe Quantities, before you can raiſe the Vomiting, which ſometimes overloads the Stomach to ſuch a Degree, that its Force is not ſufficient for the Weight laid on it, and cannot reject it; ſo that the more you drink, the leſs capable it is of doing its Office: and thus, being over-diſtended, it becomes quite inactive, whence dreadful Effects may follow.—In all Caſes therefore, if no Vomiting follows after having drank a Pint or two, ſolicit a Diſcharge with your Finger, or a Feather, and by all Means beware of that Deluge of Drink, which is too often very prepoſterouſly given.—I think, by the Way, the Obſervation, that the Stomach is utterly inactive, and cannot reject any Thing when over-diſtended, juſt as the urinary Blad-

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der when overful cannot render any Urine, ſhews that *Vomiting* is not ſolely from the Action of the *Diaphragm* and *abdominal Muſcles*, as Monſ. *Chirac* and others ſuppoſe; for their utmoſt Efforts many Times produce no Manner of Effect on an overful Stomach or Bladder:—In the latter, we are frequently obliged to have Recourſe to the *Catheter*.

If the Vomiting continues, after the Stomach is waſhed out, give a little *Theriaca Andromachi* out of an appropriate ſtomachic Mixture, as Salt of Wormwood, Juice of Lemons, Mint-water, *&c.* and apply an aromatic Fotus, or rather a Cataplaſm of *Species aromaticæ* with *Theriaca*, which moſt Times ſucceeds when every Thing elſe fails.

Not only the Stomach, but the whole inteſtinal Canal, ſhould be unloaded in the Beginning of theſe Fevers; but I am ſure Reaſon and Experience ſhew the Neceſſity of doing it by very gentle Methods; Clyſters of Milk, Sugar and Salt, Laxatives of Manna, Cream of Tartar, *Sal cathartic. Glauberi*, Tamarinds and Rhubarb, are what I would chiefly, if not only, adviſe. I have too often ſeen the extream ill Effects of acrid and ſtronger Purgatives.—* *Hoffman* cautions even againſt *Senna*. The above ſoft, eaſy Emetics and *Eccoprotics*,

* *De Febribus petechial. veris. Tom. IV.*

have

have this further Advantage, that they may be repeated, and given from Time to Time, as the putrid bilious *Colluvies* drains into the first Passages.—By such means I never fear to puke, or promote a Stool or two, when indicated, at any Time of the Fever, by a nauseous bitter Taste in the Mouth, Sickness at Stomach, *nidorose* and fœtid *Eructations*; or by too great Costiveness, tumid Abdomen, *Borborygmi*, griping Pains, *&c.*

Tho' *Hippocrates* * advises in general against purging off the crude Humors, in the Begining of Diseases, before they are concocted; yet he allows we may purge in the Begining, when there is a *Turgescence* of the Humors, and they make an Effort to be discharged: Thus a *Cholera Morbus* is an Effort of Nature to throw off a superabundant acrid Bile.—When putrid, malignant autumnal Fevers arise from a Redundance of putrescent *adust Choler*, as the Ancients called it, in the Region of the Liver, Stomach, *&c.* which is very often the Case after hot Summers have greatly encreased and exalted the Bile, animal Salts and Oils; we should certainly begin with such gentle Emetics, and Cathartics, as I have mentioned.

Unquestionably the bilious Principle is too greatly predominant in all putrid, malignant,

* *Aphor.* 2. Sect. I. & Lib. *de Humoribus.*

and

and petechial Fevers.—The Gall-bladder and biliary Ducts are always found full of black or green Bile in thoſe, that die of peſtilential Diſeaſes, and ſo is the Stomach, *Duodenum*, &c. †—Now if this putrid Bile is not carried off, it grows more and more corrupt, and cauſes vaſt Anxiety, Sickneſs at Stomach, Pain, &c. and, being re-abſorbed into the Blood, creates infinite Evils, greatly irritates the *Genus nervoſum*, deſtroys the *Craſis* of the Blood, and turns the *Lymph* into a corroſive *Ichor*.—Where therefore there are Signs of its being redundant, it ſhould be forthwith diſcharg'd by Vomit, or Stool, as Nature points out.—I have many Times, with the greateſt Pleaſure, in theſe putrid Fevers, ſeen an amazing Change for the better immediately ſucceed a Fit of Vomiting, and a Stool or two; where an inexpreſſible Anxiety, Load on the *Præcordia*, perpetual Sickneſs, *Eructation* and *Singultus* had preceded. The extream Foulneſs of the Tongue, Sickneſs and Load at Stomach, with a loathſome bitter Taſte, and horrible offenſive ſtinking Breath and Eructations, ſhew the Condition of the Stomach; and the abominably fœtid, black, bilious Stools the Neceſſity and Advantage of that Diſcharge.—Surely if a Poiſon of any Kind was lodged in the Stomach, or Bowels, we ſhould not heſi-

† *Traité de la Peſte*, &c. *Paris* 1744. 4to.

tate about the Neceſſity of carrying it off as ſoon as poſſible; and truly putrid Bile is little leſs pernicious than an actual Poiſon. Commonly about the State of theſe Fevers, or between the ſeventh and fourteenth Day, Nature of her own Accord endeavours to relieve herſelf from the putrid bilious *Colluvies* by Vomit, or looſe Stools more frequently; and her regular Operations ſhould always be favoured by Art: and accordingly I generally give a gentle Laxative the eighth or ninth Day, unleſs I find ſome Eruption appearing, or a kindly Sweat forbid it.—Till this Time, I ſeldom uſe any Kind of Purgative except a little Manna, Cream of Tartar, or the like, at the very Begining, (eſpecially when I have Reaſon to think the Diſeaſe ariſes more from Contagion than a putrid *Saburra)* ordering however an emollient, laxative Clyſter every ſecond or third Day, as there may be Occaſion.—This Laxative I repeat from Time to Time as Symptoms indicate, and during the Operation carefully ſupport my Patient with proper cordial Diet, Drink and Medicine.—By theſe Means, I not only prevent the Congeſtion, and encreaſing Corruption, of this putrid bilious Matter in the firſt Paſſages, but alſo its *Reabſorption* into the Blood; and likewiſe ſolicit a further Diſcharge of the morbid Humors into the inteſtinal Canal, and thence out of the Body. This gentle Method of purg-

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ing about this Time, in theſe Fevers, I have for many Years found of very great Advantage; but I proteſt againſt the *aloetic, ſcammoniate Coloquintida* Purgers; which in ſuch a putrid, diſſolved, acrimonious State of the Blood are Poiſons, not Medicines: and whoever uſes them in ſuch a Caſe, ſhould have the Guts of his Brain purged, if he hath any there.—Nature indeed, without ſuch powerful Stimulants, too frequently over-acts her Part, and runs into a profuſe Diarrhœa, a Dyſentery, ſoon fatal if not reſtrained;—but this moſt commonly happens from ſuffering the corrupt bilious Matter to lodge, and putrefy too long a Time, in the Bowels; and the beſt Way to prevent it is to diſlodge it, at proper Seaſons, and due Intervals.—When we are threatened with ſuch an immoderate Diſcharge, we muſt have Recourſe to proper aſtringent Alexipharmacs, *Theriaca Andromachi, Confect. Fracaſtor.* Tincture of Roſes, red Wine mulled up with Cinnamon, &c. but above all, if the Caſe be very urgent, to an aſtringent Clyſter of *Confect. Fracaſt.* or *Theriaca Andromachi*, with a ſmall Quantity of Decoction of Tormentil, red Roſes, or Japon Earth.—But no ſmall Degree of Prudence is neceſſary in the Uſe of it; for it is always of dangerous Conſequence to ſuppreſs a critical Diarrhœa prematurely; and I think it ſhould never be done without premiſing a ſmall Doſe

or two of Rhubarb.—Before I conclude this Paragraph, I cannot but take Notice, that tho' I have very often ſeen a Diarrhœa critical and ſalutary at the State, or Decline of theſe Fevers, I generally find it prejudicial at the very Begining; eſpecially if very thin, ſérous and profuſe.—Nothing more certainly ſhews a Diarrhœa to be uſeful, than when a gentle breathing Sweat, or warm Moiſture of the Skin, accompanies it.

Tho' Nature very frequently affects to diſcharge the morbific Matter, in putrid malignant Fevers, by Vomit and Stool; yet her more conſtant and grand Effort is through the Pores of the Skin.—I ſolemnly aſſert, I never ſaw one of theſe Fevers compleatly judged, or carried off, till more or leſs of a Sweat iſſued.—If it proves moderate, warm, and equally diffuſed over the whole Body, ſuch as we call a breathing Sweat; if it comes on about the State of the Diſeaſe, and the Pulſe grows more open, ſoft and calm a little before, and during its Continuance, it is always ſalutary:—But if very profuſe, cold, clammy, or partial, about the Head and Breaſt only, we have much more Reaſon to fear than to hope from it.—If profuſe Sweats break forth at the Begining, they are generally pernicious; eſpecially if a *Rigor* ſupervenes.

But,

But, as these Sweats are always most favourable, when they are more the Work of Nature than Art; they should never be too soon, or too forcibly driven out by violent hot Medicines, Regimen, *&c*; it is sufficient to promote and support them, by plentiful subacid Diluents, and gentle cordial Diaphoretics; such as may dilute and wash off the Salts, contemperate the Acrimony, and prevent the further Encrease of the *Putrescence*, and Dissolution of the Blood, and preserve and strengthen the Tone of the Solids.

But, as Persons of very different Constitutions, both as to their Solids and Fluids, may be attacked by contagious Diseases, very different Methods of Cure will be necessary in their respective Cases: Those of strong Fibres, and a rich dense Blood, do not require such warm Medicines as are necessary to support the Feeble and Phlegmatic. It should be observed in general however, that as the Blood and Humors in pestilential and petechial Fevers tend to Dissolution, Stagnation and Putrefaction; such Methods as will preserve the *contractile* Force of the Vessels, and prevent the Advance of Putrefaction, are necessary: The vegetable, and even properly prepared mineral, Acids are highly serviceable in the latter Intention; and the subastringent Alexipharmacs are

very uſeful in the former.—But I am very certain, that the Uſe of volatile, alcalious Salts and Spirits is very hurtful; as they without all Doubt augment the putreſcent State of the Humors, and act as ſo many *Spurrers* on to ſwifter Deſtruction:—A very large Uſe of them, without the Aid of Contagion, being found to bring on a Corruption and Diſſolution of the Blood, and ſuch Kind of Fevers, even in the moſt healthy.—Perhaps the peſtilential *Miaſmata* themſelves are only highly volatilized and ſubtilized animal Salts:—The Generation of peſtilential Fevers, by the putrid Exhalations of dead Bodies, after Battles, Sieges, *&c.* ſeems to ſhew this.

What I have ſaid of volatile alcalious Salts, leads me to a Reflexion on the promiſcuous Uſe of Bliſters in theſe Fevers; which by ſome are deemed the only *Anchor of Hope* in ſuch dangerous Caſes: But I think they are many Times too haſtily and improperly applied, eſpecially in the Begining, when the Fever runs high, and doth not demand a further *Stimulant*; for the Action of the *Cantharides* is not merely on the Skin, but affects the whole nervous and vaſcular Syſtem: Now when the Irritations and Vibrations are already too great, as frequently happens in the Begining of ſuch Fevers, they are very injudiciouſly applied. Beſides, the

Salts

Salts of these *Flies* operate much in the same Manner as the volatile alcali Salts, and certainly tend to promote the Dissolution, and consequently Putrefaction of the Blood.—It is true indeed, Nature may sometimes want a *Spur*, nay often doth so, particularly towards the Decline of these Fevers; when the Solids grow torpid, the Circulation languid, the Spirits *effœte*, and the Sick comatose: Here Blisters must be applied, and are of exceeding great Use, at whatever Time of the Fever such a Train of Symptoms comes on.—But, in the above Circumstances, I have very many Times seen very pernicious Effects attend their too early Application; as obstinate *Pervigilium*, *Delirium*, Suppression of Urine, *Tremors*, *Subsultus*, &c. I would therefore advise the younger Practitioners, before they deal largely in these *wholesome Severities*, to consult *Baglivi de usu & abusu Vesicantium*; and they will understand him much the better, if they previously read his Treatise *de Fibrâ Motrice*, & *Bellini de Stimulis*.—Let me further add, that where several Blisters are laid on in any acute Case, the Patient should drink freely of Whey, Emulsion, or some other subacid and demulcent Liquor; otherwise he may suffer almost as much from the Remedy as from the Disease.

It may be expected I should mention *Camphire* as the grand *Corrector* of the Acrimony of *Cantharides*; and in this View I frequently use it,

well knowing that nothing more effectually blunts the *Spicula* of Salts than this exceeding *fine, volatile, vegetable Sulphur*; even those of mercurial Preparations are greatly softened by it.—But I think, in these putrid pestilential Fevers, it answers a much more important End by promoting a *Diaphoresis*, or easy Sweat, which is universally allowed in such Cases of the highest Service: But nothing more certainly doth this than Camphire, with this further Advantage, that it by no Means heats so much as volatile alcalious Salts, and ardent Spirits.—Besides, its anodyne demulcent Quality makes it vastly serviceable, in quieting the *Erethism*, and bringing on Composure of Spirits and easy Sleep, when Opiates fail, nay augment the Tumult and Hurry.—Indeed, when joined with an Opiate, it is the most certain Sudorific in Nature; and the *Elixir asthmaticum*, or *paregoricum*, is not only in this Respect, but in many others, a most noble Medicine. But whenever Opiates are given in these Fevers, it should be only in small Quantities at a Dose, which may be repeated, as indicated; *Theriaca Andromachi*, *Mithridate*, *Diascordium*, & *Elixir Paregoricum* are without all Doubt much the best. *Camphire* however hath this Fault, that it is very disagreeable to the Stomach, but when dissolved in (or rather intimately mixed with) *hot Vinegar*, after the

Manner

Manner of the *Julep. è Camphorâ*, it ſits much eaſier, and is a Medicine excellently well adapted to putrid malignant Fevers, and even the Plague itſelf: For both Camphire and Vinegar are highly recommended, by almoſt all Phyſicians, in peſtilential Diſeaſes. The *French Phyſicians* made great Uſe of both, with Succeſs, in the late *Plague of Marſeilles*, &c. and *Heiniſius* * had a Statue erected to his Memory, for the Service he did in the Plague at *Verona* by a Medicine, the *Baſis* of which was *Camphire.*

Now, as we are obliged to give Acids and Subaſtringents, in putrid malignant and petechial Fevers, to preſerve the *Craſis* of the Blood, and the *Tone* of the Veſſels, and prevent the further *Putreſcence* of the Humors: Diaphoretics (the chief of which is Camphire) ſhould be joined with them, to keep up a free Perſpiration, or gentle Sweat, which the former are apt to retard: This is quite conformable to the Practice of the Ancients, who mixed Aſtringents with Alexipharmacs, in the Compoſition of their *Antidota*, as may be ſeen in *Theriaca Andromachi*, *Mithridate*, &c. — I am perſuaded they are better for it. — Theſe have ſtood the Teſt of Ages, and are unqueſtionably

* *Vid Etmuller de Peſte Tom.* i. *p.* 253. *Edit. Francofurt.* 1688. *Fol.*

excellent

excellent Medicines (when well used) tho' there may be several Things in them trifling both as to Quantity and Quality. — I very well know *Alum* and *Nutmeg* may be given with Advantage, in other Fevers, besides Intermittents; especially when a little *Camphire* and *Saffron* are joined with them.

Here I beg Leave to insert the following *Preparation of the Bark*, which I have used for many Years with Success, not only in intermittent and slow nervous Fevers, but also in the putrid, pestilential, and petechial, especially in the Decline; and that too many Times though the Remissions have been very obscure, and yet with a very good Effect.—But, if the Patient is costive, or hath a tense and tumid Abdomen, I always premise a Dose of Rhubarb, Manna, or the like.

℞. *Cort. Peruv. opt. pulv.* ℥ii. *Flaved. Aurant. Hispal.* ℥iss. *Rad. Serpent. Virgin.* ʒiii. *Croc. Anglic.* ℈iv. *Coccinel.* ℈ii. *Sp. Vini Gallici* ℥xx. *f. Infusio clausa per dies aliquot (tres saltem quatuorve) deinde coletur.*

Of this I give from ʒi to ℥ss every fourth, sixth, or eighth Hour, with ten, fifteen, or twenty Drops of *Elixir Vitrioli* out of any appropriate Draught, or diluted Wine. — This I order to be kept, in these Parts, as an officinal Medicine; and as a very useful one I recommend

mend it to the Tryal of others. — I very well know it will ſometimes ſucceed in Intermittents, when the Bark in Subſtance, or Decoction, will not eaſily ſit with the Patients: And this is often an Advantage of Medicines given in a liquid Form, which in a ſolid one proved diſagreeable; and therefore where it can be conveniently and effectually done, it ſhould be complied with.—The above Compoſition tends to ſtrengthen the Solids, to prevent the further Diſſolution and Corruption of the Blood, and in the Event to reſtore its *Craſis*:—And this it doth without ſhutting up the Pores of the Skin too much, which the Bark in Subſtance too frequently doth.—For it ſhould be noted, that tho' very profuſe Sweats in theſe (and all other Fevers I think) are prejudicial; yet gentle, eaſy, moderate Sweats are always to be encouraged, particularly at the State, and in the Decline, by proper plentiful Diluents, liquid Aliment, *&c.* — Indeed, as theſe Fevers very often run out to a great Length of Time, ſupporting Drinks and Diet are neceſſary, without which the Patients certainly ſink under them.—In this View, and in thoſe abovementioned, I cannot but recommend a generous *red Wine*, as a moſt noble, natural ſubaſtringent Cordial, and perhaps Art can ſcarce ſupply a better.— Of this I am confident, that ſometimes at the State, and more frequently in the Decline, of putrid malignant

malignant Fevers, it is of the higheſt Service; eſpecially when acidulated with Juice of Sevil Orange, or Lemon.—It may be alſo impregnated with ſome Aromatics, as Cinnamon, Sevil Orange Rind, red Roſes, or the like, as may be indicated; and a few Drops of *Elixir Vitrioli* may be added.—I will not ſay in the Rant of *Aſclepiades*, * *Utilitatem vini æquari vix deorum potentiâ*; but it is undoubtedly of admirable Uſe not only in common Life, but as a Medicine.—*Rheniſh* and *French* white Wines, diluted, make a moſt ſalutary Drink in ſeveral Kinds of Fevers, and generous *Cyder* is little inferior to either.—And, as I ſaid above, ſound, old, red Wine is a fine ſubaſtringent cordial Julep.—The *Aſiatics*, and other Nations, where peſtilential Diſorders are much more rife than with us, lay more Streſs on the Juice of Lemons in theſe Fevers than on the moſt celebrated Alexipharmac. It is not as to theſe only, but in many other Things, that we ſeek from Art, what all-bountiful Nature moſt readily, and as effectually, offers us, had we Diligence and Sagacity enough to obſerve, and make Uſe of them. — And I cannot but here take Notice, that I think the *dietetic* Part of Medicine is not ſo much ſtudied as it deſerves.—I am ſure it is the more natural Way

* *Plinii Hiſtor. natural. ex Edit. Harduin. Pariſ.* 1723, *Folio. Tom. II. p.* 301.

of Cure, tho' leſs pompous indeed than alexi-pharmac Bolus, febrifuge Draught and cordial Julep.

As I think the following Diſſertations will more fully illuſtrate and confirm the preceding Doctrine, I ſhall here ſubjoin them.





AN

ESSAY

ON THE

SMALL-POX.

HE *different Effects* of the *same Disease*, on *different Constitutions of the Solids and Fluids*, is in no Case more evident than in the *Small-pox*.—For, *first*, when the variolous Contagion attacks a Person of strong tense Fibres, and a rich dense Blood, commonly a smart inflammatory Fever ensues; in which sometimes the Lungs, sometimes the Brain, the Throat and other Parts are greatly inflamed, and on Bleeding you have a very thick inflammatory Blood; and you are many Times obliged to bleed repeatedly, unless you will suffer your Patient to be carried off by a raving Phrenzy, or choaked by a peripneumonic Inflammation. — Here the Pulse is rapid, full, tense; the Breathing hot, short, and laborious; the Heat very sharp and the Urine high-coloured; the Thirst great, the

the Tongue dry and foul; the Pain of the Head, Back, and Loins, Limbs, exceedingly acute.— Under ſuch Symptoms I would bleed in a Peſtilence, or indeed any other Diſorder whatſoever, or elſe the utmoſt Danger will ariſe from the inflammatory *Diatheſis* of the Blood, abſtracted from the Contagion.

But I can by no Means approve of the promiſcuous Uſe of Bleeding, ſo commonly practiſed in all Attacks of the Small-pox.— For, 2*dly*, that Diſeaſe many Times comes on with the uſual Symptoms of a ſlow nervous Fever, and the Sick are frequently a long Time *drooping*, as the Vulgar call it; the Fever low, the Spirits ſunk, the Pulſe weak, quick and fluttering, the Countenance pale and fallen, the Urine crude and thin, no great Thirſt, no great Heat, a continued Giddineſs and Heavineſs, of the Head with Tremblings, a perpetual *Nauſea* and Puking, univerſal Uneaſineſs, Weakneſs, Wearineſs, &c. I have ſeveral Times known Symptoms of this Kind continue for ſeven or eight Days together, and at laſt end in the Small-pox; which almoſt always proved of a very bad Sort, pale, crude, pitted and *ſeſſile*, never riſing well, or maturating kindly, but continuing flat and flaccid, or running together in large watery Bliſters, full of thin, undigeſted *Ichor*, and ſo remaining to the very laſt; whilſt in the Face, from a deadly pale cadaverous Hue, they

turned to a ghaſtly black, and very adheſive Cruſt, if the Patient ſurvived long enough, and even then generally proved fatal.

3dly, Sometimes the Small-pox are attended with a Fever of the malignant or petechial Kind, in which the *Craſis* of the Blood becomes quite diſſolved, black and livid Spots appear, Hæmorrhages enſue, and the Puſtules turn black, gangrenous, and often bloody ſoon after the Eruption, and that too ſometimes when the Pox are very few and diſtinct.—Here then we find three different Kinds of Fevers produced by one Species of Contagion, and we are obliged in the Method of Cure to have a Regard to the particular Fever, as well as to the peculiar Nature of the contagious Diſeaſe.

By this we ſee how abſurd the general Notion of either the *hot*, or *cold*, *Regimen* is in all Kinds of the Small-pox indifferently. — Some times *Sydenham*'s Method may be proper, ſometimes *Morton*'s.—— In a Word, the particular Caſe requires a particular Method, and the attending Phyſician is to ſhew his Judgment in adapting it rightly.

Tho' the Contagion of the Small-pox produces the ſame ſpecific Diſeaſe, yet the Degrees of that Diſeaſe are vaſtly different. —— Even the very ſame Contagion, in the ſame Houſe, Family, or Village, frequently pro-

duces

duces very different Kinds of Pox; ſome exceeding mild and diſtinct, ſome highly malignant and dangerous.—We ſee innumerable Inſtances where the firſt ſeized ſhall have a very favourable Kind, the ſubſequent a confluent, malign and fatal: This is every Day's Experience; and yet amidſt all this, and from the very worſe Sort, intermediate Inſtances happen of the moſt benign. — So that it is quite Demonſtration, that the Conſtitutions of the particular Patients greatly diverſify the ſucceeding Diſeaſe:—And it is ſo in all Caſes; for even a common Scratch in one rankles and proves a ſtubborn Ulcer, in another a large lacerated Wound heals up with little or no Difficulty.— A common *Phlegmon* in one eaſily reſolves, or ſuppurates kindly, in another it proves grangrenous, ſcirrhous or cancerous.

The Contagion of the Small-pox doth not always bring on a Fever, at leaſt to any conſiderable Degree, though it may the Small-pox; for many Children, and even grown Perſons, have had them in the natural Way, in ſo mild a Manner, that they have had no perceptible Fever, nor ſcarce ailed any Thing previous to, or during the Courſe of them.—The variolous *Pus* oftentimes infects the Skin of thoſe that have had them already, producing a great Number of Puſtules, altogether ſimilar to thoſe of the Small-pox, of the ſame Dura-

tion and Manner in Maturation, but without any Fever.—This is very common among those that attend and handle Persons ill of that Distemper, especially those who have fine and tender Skins.—Here the Contagion affects the cutaneous Glands, &c. only, and not the Blood, which had such an Alteration made in it by the former Small-pox, as not to be susceptive of it ever after.—There are some peculiar Constitutions, that will never receive this Disease; for several Persons never have the Small-pox, though frequently conversing with, and even attending People in them. I knew an *old Nurse* and *one Apothecary*, who for many Years attended Persons (and a great Number too) in the Small-pox, and yet never had them. Nay many, that have industriously endeavoured to catch the Infection, by frequenting the Chambers of the Sick, have done it without Effect; — and yet some of these very Persons, some Months or Years after, have been seized with the Small pox. — The variolous *Pus*, in *Inoculation*, will not infect every one; and it is well known the *Pus*, even from the same Person, produces very different Numbers of Small-pox in different Persons, and very different Degrees of Fever. — Upon the whole then it is evident, that the previous State of the Body, and Disposition of the Humors, greatly contribute to determine the Quantity and Quality of the Small-pox.—

Not but that the contagious *Miasmata* may be of a much more virulent and active Nature at one Time than another, or during one Constitution of the Air than another: and indeed we actually find that it is so. — But even this may be very much owing to that peculiar State of the Air, inducing such or such Qualities into the Solids and Fluids, which render them liable to such and such peculiar Fevers :—For we find one Constitution of the Atmosphere dispofeth to inflammatory Fevers, another to the flow nervous, remittents, intermittents, *&c* ; and a third to the putrid, malignant, or petechial. ——Now where the Contagion coincides, and co-operates with such or such a Constitution, it will be productive of such or such a Kind of Small-pox, or rather of such or such a Kind of Fever with the Small-pox.—— For surely we many Times observe a very untoward Fever to accompany the Small-pox, where very few, and very distinct, though of an ill Kind.—Indeed, I think, I have frequently observed the common epidemic Fever manifestly concurring with the Small-pox, and that the variolous Contagion only diversified the Disease ; or rather the epidemic Fever was coincident with the Small-pox on the same Subject.— This was the Case very often in 1740, 1741, and 1745 ; when a violent epidemic Fever, of the pestilential Kind, raged *here*, chiefly among

the *Sailors*, *Soldiers*, and *Prisoners* (especially in the last of those Years) who had commonly the most evident Symptoms of the malignant Fever with the Small-pox, which therefore proved exceeding fatal among them; whereas many Persons in the *Neighbourhood*, that had no Communication with the *Hospitals*, and were otherwise tolerably healthy, had a very favourable Kind.—And probably this malignant Fever was chiefly owing to the high scorbutic ill Habit of Body, Manner of Life, Confinement, *&c.* to which the above Set of People were subject: —Though I think the Fever *, in 1740, was from another Original.

It should seem then, could we preserve, or produce, a certain peculiar Disposition of the Blood and Humors, we might elude the Force of the Infection: And this indeed is talked of by some, but I think upon a very slight Foundation. — Some particular Preparations of the *Bark* and *Mercurials*, by Way of Antidote, have been thought successful, and I have known some Instances that inclined me to think so; but I am far from being satisfied so far as to advise, or depend on them.

In Truth, in different Constitutions, the very same Medicine shall have very different Effects, and it would be Madness to give the

* *Vid. hujus historiam, Obs. nostr. de Aere, &c. Vol. II. mense Junio* 1740.

Bark and cordial Corroborants to one of very ſtrong rigid Fibres, and a very denſe viſcid Blood, by Way of *Prophylactic*, or *Preparative*; though they might be of much Service in a weak lax State of Veſſels, and a poor watery Blood.—Would Mercurials be proper in a too looſely cohering diſſolving State of the Blood? —Verily ſome bad Effects have been ſometimes noted on the Uſe of them, particularly *Petechiæ*, Hæmorrhages, and profuſe *Diarrhœa*'s in the enſuing Pox; though I am ſenſible, in other Circumſtances, they may be very uſeful. —In Sum then, whatever can be done rationally in this Way, muſt be with a View to mend what is faulty, or ſupply what is defective, in the Conſtitution; ſo as either to fortify it againſt the Attack of the Diſeaſe, or to prepare it the better to cope with it, when it actually ſeizes. —Perhaps theſe few Hints may not be altogether unworthy the Conſideration of thoſe eſpecially, who have the Preparation and Management of Perſons to be inoculated.

I am perſuaded, if Perſons, regularly prepared, were to receive the *variolous Contagion* in a natural Way, far the greater Part would have them in a mild Manner; for undoubtedly a very bad Sort of Small-pox many Times ariſes from an Over-fulneſs of Blood, Acrimony of Humors, or great Loads of foul Matter in the firſt Paſſages; and very frequently Er-

rors are committed in Diet, Exercise, *&c.* after the Infection is first taken, which often prove of fatal Consequence in the Event.—— From these, those that are inoculated are, and should be guarded, and hence the great Success of that Operation.—Not but that the mild Kind, from whence the *variolous Pus* is taken, and the very small Quantity of infectious Matter received by *Insition*, in Part also contribute to the Mildness of the Disease.— This perhaps is the whole of *Inoculation*, if you take in likewise this Consideration, that it is practised chiefly on the young, fearless and most healthy. —Innumerable Instances however have now sufficiently evinced the great Success and Advantage of this Method; and, granting all that Prejudice and Party have said against it, the Danger in the natural Way is at least ten to one, of what it is in this.

A particular Regard then must be had to the Constitution of the Patient, and the Constitution of the Air, if we would practise with Reason and Success in the Small-pox, and indeed in all other epidemic Disorders.

For, *first*, the robust and vigorous Constitutions have more viscid and dense Humors, and much more of the red, globular, compact Blood; and of Course are liable to a higher Fever and greater Inflammation than Persons of lax Fibres, and a poor watery Blood; and

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for this Reaſon can better bear, in all Caſes, Evacuations, eſpecially by Bleeding.

In the former then it is prudent, on the Attack of the Small-pox, to draw off ſome Blood, and, if Symptoms run high, to repeat it. A full, tenſe, throbbing Pulſe, great Heat, a difficult and hot Reſpiration, high Colour of the Face, Redneſs of Eyes, Phrenzy, *&c.* particularly demand it.: An acute Pain of the Head, Inflammation of the Eyes, and Throbbing of the carotid and temporal Arteries, denote an Inflammation of the Brain, or its *Meninges*, which you can never be too earneſt and early in endeavouring to remove.—— After having drawn a proper Quantity of Blood from the Arm, Bleeding in the Foot hath generally an admirable good Effect.

Bleeding in ſuch Caſes doth not retard the Eruption, at leaſt not beyond its due Time.— Where the Blood and Spirits are under a vaſt Agitation, and the Circulation exceſſively rapid, Nature is ſo much embarraſſed, as to be unable to make a regular Expulſion of the morbific Matter, much leſs to *concoct* it, or even to perform the common natural Secretions : — In common ardent and inflammatory Fevers you are many Times obliged to bleed once and again, before you can procure the leaſt Sweat. — Beſides, ſome Degree of *Coction* is neceſſary in all critical Eruptions, at leaſt in

ſuch as prove ſalutary; and therefore you have generally more or leſs of a Sediment in the Urine juſt before, or at, the Eruption, and the Fever ſubſides.—Where all is in a Hurry, and the Pox are puſhed out too ſoon, frequently even within thirty Hours, the Fever continues, and the Event is almoſt always fatal.—Nor will Bleeding, under the above Circumſtances, weaken the Powers of Nature; but, by calming the over-violent Motion of the vital Fluid, and cauſing a more regular Secretion of the animal Spirits, it will relieve, nay ſupport her in her Work.

Bleeding in the Foot is known to make a very powerful Revulſion from the Head and Breaſt, Parts we ſhould endeavour to guard, as much as poſſible, againſt the Violence of this Diſeaſe. — And, to this End, I would recommend alſo Bathing the Feet and Legs in warm Water, or Milk and Water, for a few Minutes, two or three Times a Day, before, and at the Eruption; and would likewiſe have *Cataplaſms of Milk and Bread, boiled Turnips*, or the like, applied to the Feet.—This Practice I have for many Years uſed with Succeſs, and particularly recommended in a ſhort Account of an anomalous Small-pox, that raged *here* in 1724 and 1725 *—This draws the Blood in greater Quantities to the lower Parts, and of

* *Philoſoph. Tranſact.* No. 390.

Courſe

Course relieves the Head and Breast; and, as it brings down more Blood, it brings down also more of the variolous Matter to those Parts, and, what is more, facilitates its Eruption on them; which lessens the Quantity, that might otherwise break out about the Head, &c: At the same Time the relaxing Quality of the tepid Bath tends to calm the Impetuosity of the Blood, and in some Measure also dilutes it. It is certain, where this Method is used, a vast many Pox break out on the Legs and Feet, and sometimes on the Application of the Cataplasms very severe Pains affect them.—It is the Number of Pustules about the Head, Throat and Breast, that are so justly to be feared: A common *Erysipelas* of the Face and Head is vastly more dangerous than on the inferior Limbs.—The Head therefore should never be kept too hot, but should be shaved antecedent to the Eruption, especially where there is much Hair; this not only keeps the Head much cooler and less liable to be over-run with Pustules, but likewise prevents many troublesome Accidents in the Course of the Disease.

If, notwithstanding the Fever continues to run high, the Eruption doth not regularly advance; I would not only advise Bathing the Legs and Feet, but the Arms and Hands, nay and even the Trunk of the Body also.—This I have had Occasion to practise more than once

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in some Children, who, from being used to the *cold Bath* for ricketty Disorders, had their Skin rendered more dense and hard than natural, which probably retarded the Eruption beyond the due Season. In one of these (now a strong lusty Gentleman) the Pox did not appear till the sixth Day, tho' he had a very smart Fever from the Begining; and then, on bathing him up to the Breast in warm Milk and Water, the Pox came out forthwith, very kindly, though pretty numerous. — Bathing the Body in this Manner not only tends to relieve the Head and Breast, but it also draws out the morbific Matter, and promotes its Eruption on the external Habit, by which the internal and more vital Parts are less liable to the Ravage of the Disease: It is too often found that the *variolous Pustules on the Lungs, Viscera of the Abdomen,* &c. produce mortal Effects.—This is not altogether a new Method: for *Rhazes* * advises the Patient to be kept in a kind of *Balneum Vaporis,* to facilitate the Eruption.

Many Times the Strong and Plethoric fall into a vast Dejection of Spirits, and a general Debility, attended with a heavy oppressed Pulse, at the very Seizure with the Small-pox; which makes the less experienced Practitioner very diffident as to Bleeding, tho' here equally neces-

* *Vid. Rhaz. de Variolis & Morbillis Cap.* vi. *ex Edit. Mead.*

sary.

ſary, and nothing ſooner relieves them, eſpecially when this, in great Part, ariſes from Fear and Dread of the Diſeaſe: which is very often the Caſe with adult Perſons, who by the bye can beſt bear Bleeding, unleſs very old. For not only the Contagion itſelf perhaps primarily affects the animal Spirits, but the very Fear and Concern alſo ſo diſturb and weaken the Powers of Nature, that the Heart and contractile Veſſels exert much leſs Force on the contained Fluids; whence the regular Secretions and Excretions are conſiderably diminiſhed, particularly thoſe important ones, the nervous Fluid, and Perſpiration: ſo that hence the *Moles movenda* is encreaſed, and the *Vis motrix* leſſened.—Drawing off Part therefore of the encreaſed Blood, under ſuch Circumſtances, is in Event equivalent to an Encreaſe of the moving Force.—Beſides, when Part of the viſcid Humors is drawn off, the remaining are more eaſily attenuated, and rendered more fit to give off the actuating Principles, or animal Spirits, in due Quantity.—Some Blood therefore, in ſuch Caſes, ſhould be drawn as early as poſſible, but not in too large Quantities at once.—It is certainly better to repeat the Bleeding, if neceſſary, at leaſt to ſtop the Orifice now and then; for by this Means you avoid the Fainting, which otherwiſe frequently happens, unleſs the Patient is bled in a recumbent, or lying Poſture.

But

But further, where immoderate Fear and Dejection of Spirits concur with the Diſeaſe, there is really oftentimes a Neceſſity of giving ſomething of a cordial Nature, even at the very Begining, and that too ſometimes even not ſparingly. Now when the ſuperabundant Quantity of the Blood is drawn off, theſe invigorating Medicines may be uſed with greater Safety and Advantage; and I have many Times ſeen exceeding good Effects from them, where the Puſtules, thro' exceſſive Fear, and Oppreſſion of Spirits of the Patients, lay buried in the Skin, as it were, and made no conſiderable Advance for two or three Days together.—I am no great Advocate for the *hot Regimen*, eſpecially at the Begining of the Small-pox; but I know this muſt be done in ſuch Caſes, and Bliſters muſt be applied to rouze the ſluggiſh Oſcillations of the Veſſels, or the Patient certainly ſinks under the Malady.—Yet in general, I am not fond of Bliſtering very early in the Small-pox, unleſs there is great Reaſon to fear that the Tongue, *Fauces*, and narine Paſſages, are otherwiſe like to be greatly infeſted with them: When the Diſeaſe attacks with a Rawneſs, Soreneſs, or great Heat of the Mouth and Throat, and a conſiderable ſharp *Rheum*, or Stoppage in the Noſtrils with frequent Sneezing, and a tickling Cough; this is to be expected, unleſs prevented by

by timely Blistering, which I have often found very successful.—Great Sneezing, and sharp [illegible] from the Mouth and Nostrils, shew that the *Membrana Schneideriana*, the common Lining to all these Passages, is greatly affected, and that a Revulsion from it is indicated; for even a few Pustules in the Throat and Nostrils are of vastly worse Consequence than a hundred Times the Number on the external Habit: Great Pain and Difficulty of breathing and swallowing are the certain Effects, especially towards the Close of the Disease; which frequently quite choak the Sick, unless you are exceeding diligent with your Gargles, Syringing, *&c.*—Sometimes I have known such a violent Defluxion on these Parts, as to cause a very profuse Salivation even at the very Begining; which hath kept the Patient constantly awake, excoriated the Tongue, Lips and Throat, and brought on such excessive Pain as utterly to deprive them of Sleep, and make Swallowing any Drink, Aliment, *&c.* almost intolerable: Here early Blistering in the Neck, behind the Ears, *&c.* is indispensably necessary.

But secondly, when Persons of weak lax Fibres, and a poor thin Blood, or those, who have undergone lately great Evacuations, are attacked with the Small-pox, withhold your Lancet as you tender the Life of your Patients.—These generally have a sunk pale Countenance, a weak,

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quick, trembling Pulſe, very great Dejection of Spirits, with a pale crude wheyiſh or limpid Urine, alternate Chills and Heats, little Thirſt, and no great Pain, but a perpetual Heavineſs and Sickneſs at Stomach, Giddineſs, *&c.* Here, I pronounce it, *Sack and Saffron* are not improper, with ſome eaſy, cordial, nervous Medicines, Sack Whey, Wine and Water, or the like.—But all this may be done without large Doſes of volatile alcalious Salts and Spirits, Snake-Root, Brandy, ſtrong Wine, *&c.*—And yet I have ſeen pretty large Quantities of Wine given in ſome low depreſſed Caſes, with very great Advantage: Bliſters alſo may be here applied, and ſtimulating Cataplaſms to the Feet; Bathing ſeems not ſo proper.

There is one Thing in a peculiar Manner, that greatly promotes the variolous Eruption in theſe low ſlow Caſes, where the Puſtules do not break forth in a regular Manner, at the uſual Seaſon, but lie buried in the Skin with little or no Protuberance, and leſs Colour; and that is *Vomiting* by a *gentle Emetic.*—Nature almoſt always makes this Effort ſpontaneouſly in this Diſeaſe, and I think we ſhould follow the *Indication*; for it not only in Part throws off the morbific Matter, which primarily affected the Stomach, but alſo the heavy putrid bilious *Colluvies*, that may have been collected in it, the Liver, Gall-Bladder, *&c.*—It is very notorious

rious that the Action of Vomiting forces off through the Skin, Perſpiration, Sweat, Puſtules. — I know it is objected, that Vomiting drives up too much Blood to the Brain; and therefore is improper in the Begining of the Small-pox: and I think ſo too, if done antecedent to Bleeding in plethoric Conſtitutions; nay I have known very terrible Accidents enſue, where thus injudiciouſly managed.—But let it be conſidered, that, without the Solicitation of Art, Nature is always at it, and makes almoſt perpetual, tho' many Times vain, Endeavours to diſcharge the Stomach: Now it is certain, that by co-operating with her Motions, and aſſiſting her Effort with a proper *Waſh*, we greatly help her Attempt, and the Vomiting even ceaſes much the ſooner; and it is obſervable, that on the compleat Eruption the Vomiting goes quite off, but even that is by this Means very much promoted.—I would have the Cataplaſms to the Feet immediately ſucceed the Emetic, for Reaſons that are very obvious.

The Emetic hath commonly the further good Effect of producing a Stool or two, by which the Inteſtines are unloaded of groſs, indurated Excrements, or any putrid bilious Contents; if this doth not happen, an emollient laxative Clyſter ſhould be forthwith given: And, in many Caſes, a gentle, eaſy, cool Cathartic of Manna, Cream of Tartar, *Glauber*'s Salt, or Rhubarb

Rhubarb is neceſſary; even if a Diarrhœa is urgent, a Doſe or two of Rhubarb ſhould be given.

Different Conſtitutions of the Air have different Effects on the moſt healthy, much more on the ſick and weak, and of Courſe on Diſeaſes.—It hath been long obſerved, that one Conſtitution of the Atmoſphere promotes, another retards the Progreſs of epidemic Diſorders, particularly of the Small-pox; which at one Time begin in the remoteſt Corner of a Town or City, and ſoon ravage the whole; at another they are carried into the very Heart of them, and yet preſently ceaſe.—The Plague itſelf is commonly ſtopped, by a Change of Air from hot and moiſt to cold and dry.—The very State of the Blood greatly depends on the precedent and preſent Conſtitution of the Air, and it hath been proved, that the Contagion hath different Effects on different States of the Blood.—A due Conſideration therefore of the preſent, and preceding Conſtitution of the Air, is of no ſmall Import in our Method of Cure.

As a continued cold dry Air makes the Fibres ſtrong and very elaſtic, and the Blood denſe and viſcid; one may reaſonably conclude, that Patients, in ſuch a Conſtitution, will *cæteris paribus*, more need, and better bear Blood-letting, than in a warm, moiſt, relaxing State of the Air; and that they will want more of the diluting,

diluting, emollient *antiphlogiſtic* Drink, Diet and Medicines; whereas in the latter ſomething more cordial, ſubaſtringent and *antiputreſcent* will be requiſite.

It is certain, in very cold and dry Weather, as alſo when very hot and dry, Perſons in the Small-pox ſpit vaſtly leſs than in the oppoſite Conſtitutions of the Air; ſo that in a very dry Atmoſphere all proper Means ſhould be uſed to dilute the Humors, and promote *Salivation*, ſo neceſſary and ſalutary in this Diſeaſe: —This however in ſome Seaſons, and ſome Perſons, is vaſtly too profuſe and prejudicial; I think more particularly in coldiſh, moiſt, flabby Weather, and in Perſons ſubject to catarrhal Diſorders.—I have many Times known the *Salivation* begin ſo ſoon, and continue ſo immoderate, as at length to abrade the common Invelop of the Tongue, Mouth and Fauces, cauſing moſt exquiſite Pain, preventing Sleep and Swallowing, and keeping the Patients in a perpetual Torture.—And therefore I always dread a *premature Salivation*, eſpecially when profuſe and very acrid.

As ſome Conſtitutions of the Air hinder a ſufficient Salivation, others diſpoſe to too much, and that too acrimonious: An epidemic Catarrh ſhall at one Time be only a Diſcharge of a thin, ſoft, inſipid *Mucus*; at another, a profuſe acrid *Gleet*, excoriating the Noſe, Lips, Fauces, *&c.*

—Probably ſuch a Kind of Atmoſphere, as diſpoſes to exceſſive Salivations, may in Part alſo be productive of that crude, *cryſtalline, undigeſted Pox*, which we too frequently meet with. For a moiſt, flabby, chill Seaſon not only too much relaxes the *contractile* Veſſels, and impregnates the Blood with the cold nitrous Vapors; but withal greatly obſtructs Perſpiration, whence a ſharp, ſerous *Colluvies* is accumulated; and it is chiefly, in ſuch Seaſons, that this Sort of Small-pox is predominant; as the ſmall, warty black Kind, with little or no Salivation, is moſt commonly obſerved during a long continued Courſe of dry North-Eaſterly Winds, very hot or very cold dry Weather.—Doth not this Obſervation hint to us the different Regimen neceſſary in different Seaſons?

Theſe *cryſtalline*, or *lymphatic* Pox never maturate kindly, but the Matter remains crude, and a mere watery *Ichor* to the laſt, and in many Places they run one into another, and form very large Veſications; which at length breaking and corroding all around them, the Patient is ulcerated all over, and appears like a flead Rabbit.—I have ſeen ſome running down under ſuch a Kind of a *Tabes* for twenty or thirty Days together, the ſharp Humors ouzing out, and dripping from them continually, till at laſt they have been *diſſolved in a double Senſe*.—Very frequently

frequently a great Part of this thin crude Matter is re-abſorbed into the Blood, and leaves a vaſt Number of the Puſtules flaccid, empty, or *ſiliquoſe*, as they call it. This creates terrible Diſorders, and plays over the Tragedy again, which generally ends in a fatal *Cataſtrophe*; convulſive *Rigors*, peripneumonic Fever, Delirium, Dyſentery, *Syncope*, *&c.* are the common Conſequences.—However when it goes off by a moderate Diarrhœa, or a very plentiful Diſcharge of full-coloured ſubſiding Urine, the Sick very often recover; but when the Stools are black, bloody, or ſanious, they generally indicate a Mortification of the Inteſtines, eſpecially if the Abdomen is ſwoln, painful and tenſe.—And a *Micturition*, or perpetual Urging to Urine, without any conſiderable Diſcharge, is a very bad Symptom, unleſs it ariſes from Bliſters. — If ever large Sweats are uſeful in the Small-pox, it is in this Kind of them; and I think I have found them ſeveral Times greatly advantageous.

In this *crude, ichoroſe, indigeſtible Pox* and profuſe *Ptyaliſm*, where the Skin and Puſtules are pale, or lurid, the Pulſe weak, the Urine thin, watery, crude; the warmer Medicines are neceſſary: ſuch as *Pulv. Contrayerv. c. Myrrh*, *Muſk*, *Saffron*, *Camphire*, *Theriaca*, *Mithridate*, *Confectio cardiaca*. Theſe are of vaſt Service in raiſing the Puſtules, and digeſting the Matter, and may be waſhed down with Sack-whey, *Decoct. rubicund.*

a temperate teſtaceous Julep, or a *Diſh of Coffee* now and then with a little thin Milk in it; which I have known, more than once, drank thro' the whole Courſe of the Small-pox with no ill Effect, nay with a very good one; as it manifeſtly quieted the tickling vexatious Cough cauſed by the ſharp thin Rheum.

Here alſo without Doubt Opiates are ſtrongly indicated, and *Theriaca*, *Elixir paregoricum*, or *Tinctura Thebaica* ſhould be given with *Diacodium* frequently, but in ſuch Doſes as to quiet, not to ſtupefy the Patient; which indeed is the moſt ſafe Method of giving Opiates in all Sorts of Fevers, and ultimately the moſt effectual; for tho' a large Doſe at once may more immediately procure Sleep, yet it is much leſs refreſhing; but, when it doth not, a Delirium is almoſt always the certain Conſequence, or a long continued Stupor.—In all Events great Doſes cauſe very great Relaxation and univerſal Debility, which nothing but a freſh Doſe after ſome Time, or a warm Cordial will relieve: They are ſimilar in Effect to large Doſes of *ſpirituous Liquors*, which produce temporary Madneſs, or Stupefaction, ending in general Weakneſs, Tremors, and the utmoſt Dejection of Spirits.—Beſides, no one can ſay, what Effect a particular Doſe of Opium will have on a particular Perſon, till he hath tried it: Some have ſuch a peculiar Diſpoſition, that a very ſmall

4 Doſe

Dose will greatly affect them; whereas others of nearly the same apparent Strength, Constitution, *&c.* will take four Times the Quantity with vastly less Effect.—Some bear *Diacodium* that cannot touch *Opium*: So that it is always prudent to begin at least with moderate Opiates, and in small Doses.

Yet notwithstanding this Caution, there are no Medicines whatever that incrassate thin acrid Humors, abate their Irritation and Defluxion, and maturate the Pustules so effectually as Opiates properly given. — In Truth, when the Pustules are numerous, we can do very little without them, especially towards the State of the Disease, when they become exceeding painful.— And yet even here, when the Salivation is extreamly viscid and difficult, and the Respiration short and laborious; we should be very cautious in using them, and join with them *Gum ammoniac*, *Oxymel scilliticum*, &c.

Nor must we in this *lymphatic, or crystalline Pox* be sparing of Blisters, which, besides their other good Effects, give a copious Vent to the acrid morbific Humors; and for the same Reason the large Bladders, which the Pustules cause by running together, should be opened with a Lancet.—Letting out the Matter with a golden Needle, as * *Avicenna* advises, is more nice than

* *Avicenna Canon. Medic. Lib.* iv. *Cap. de Variolis, p.* 66. *ex Edit. Plempii.*

 necessary.

neceſſary. Do it as you will, a worſe *Cicatrix* follows than when committed to Nature: But here the Danger ſuperſedes that Conſideration; for a Mortification is ſometimes brought on by the corroſive Matter, and ſome of it withal is continually re-abſorbed into the Blood.

I would alſo adviſe ſome proper Diuretics to be joined with the alexipharmac Medicines, as *Nitre*, *Sal Succini*, *Spirit. nitri dulcis*, and the like. For I have many Times obſerved a plentiful Flow of Urine very happily compenſate the Deficiency of other Evacuations: and, if this happens when the Salivation begins to ceaſe, and the Face ſubſides, it is always ſalutary; and, as it is ſo, it ſhould be promoted as much as poſſible; and the Sick ſhould be frequently prompted to diſcharge it, which is greatly facilitated by getting them up on their Knees. For, whilſt lying in Bed, they have many Times neither Inclination, nor Power, to make it; and yet immediately, on being lifted up, they ſhall render it in a large Quantity.

Nothing is more common than for the thin, acrid, variolous Matter to take a Turn down the Inteſtines, and very often in a very violent Manner.—Innumerable Inſtances have occurred in the Small-pox, where a critical Diarrhœa hath ſaved the Life of the Patient; Nature even ſubſtitutes this Diſcharge in Children, for the Salivation in Adults.—We ſhould be very

careful therefore never to ſuppreſs it too haſtily; and even when it is profuſe, we ſhould not attempt it, till we have premiſed a Doſe or two of Rhubarb; and then indeed proper Aſtringents, Opiates, *Decoct. rubicund. Decoct. Fracaſt. Tinct. Roſ.* &c. may be uſed; and, when every Thing elſe fails, a Clyſter with *Diaſcordium*, or *Theriaca*, will ſtem the Torrent. But in general we ſhould only moderate it, eſpecially at, or after the State, taking Care however to ſupport the Patient during the Flux with a proper ſtrengthening, ſubaſtringent Diet.

I never obſerved either the *vegetable or the mineral Acids* of any great Service in the crude cryſtalline Pox, but I have often found them highly uſeful in the *ſmall, black, confluent Kind, with Petechiæ*; in which the Putrefaction of the Humors in general ſeems much greater, and the Matter of the Puſtules is vaſtly more fœtid and ſanious than in the *cryſtalline*, the *Ichor* of which many Times hath little or no Stench at all.—Tho' perhaps ſcarce one in four recovers from this ſmall, black, confluent Kind (and when attended with black Spots, bloody Urine, and other Hæmorrhages, ſcarce one of a thouſand) yet ſometimes great Things have been done by mineral Acids, aſtringent Alexipharmacs, and Preparations of the *Cortex Peruv.* when the *Petechiæ* have been numerous, and the Small-pox very black, ſmall, and conflu-

 ent,

ent, nay, and even attended with ſome Degree of Hæmorrhage.—I have known ſome Inſtances of a Recovery, under theſe Circumſtances, by thoſe Methods; but never met with one, who ſurvived the Diſeaſe, that made bloody Urine, unleſs it was manifeſtly from *Cantharides*. ——But as this Kind of Pox is of very long Duration, and the Patient (if he at length gets over it) continues between Life and Death as it were for many Days together; the above Medicines are not only neceſſary, but he ſhould be alſo plentifully ſupported, in the *laſt Stadium* eſpecially, with proper *analeptic* and *antiſeptic* Drinks and Diet; till at laſt, like the Serpent, Emblem of recovered Health, he crawls out of the *black Exuviæ* into new Life and Vigor: and truly I have ſeen ſome Caſes, which ſeemed more like a Reſurrection than a Recovery.

When I recommend the Uſe of the *Bark*, in ſome Kinds of the Small-pox, I do it upon ſufficient Experience and Authority; whoever is not ſatisfied with mine, may conſult the great Dr. *Mead* *, Prof. *Monro* †, and Dr. *Wall* § on this Matter.— I commonly begin with the *alexipharmac Tincture of the Bark* above deſcribed, well acidulated with Elixir of Vitriol; and then proceed to the Decoction, or Extract, if neceſſary.—But let me ſtrongly caution againſt gi-

* *De Variolis & Morbillis, p.* 45. † *Medical Eſſays, Vol.* v. *p.* 102. § *Philoſoph. Tranſact.* No. 486.

ving any Thing of this Kind, where the Reſpiration is difficult, the Body very coſtive, and the Abdomen hard and tumid, at leaſt till you have removed thoſe Symptoms.— I muſt add, that the *Tinct. Cort. alexipharm.* is particularly ſerviceable in the *lymphatic Pox*, and ſhould be given ſoon after the compleat Eruption, to promote, as much as poſſible, ſome Degree of Maturation: It is certain the *Bark* commonly brings on a laudable Digeſtion in gleety Ulcers. — *Morton* * gave the Bark, not only in the *Decline*, but during the *Maturation* of the Pox, if he found any Remiſſion; and that too every third or fourth Hour, to the Quantity of a Drachm; and I know this hath been practiſed many Years ago with Succeſs by ſome other eminent Phyſicians.

The great Difficulty and Danger of this Diſeaſe chiefly comes on at the *State*, or *Turn* of the Pox (which happens much ſooner in ſome Kinds than in others, the milder the Pox, always the ſooner;) for however eaſily Matters may have proceeded till this Time, we are now (*viz.* the ſeventh, ninth, or eleventh Day from the Eruption) very often ſurpriſed with a very ſhocking Change, and terrible Symptoms. The Swelling of the Face ſinks at once, the Salivation ſuddenly ceaſes, the Puſtules grow flac-

* *De Variolis, cap.* ix. *p.* 250.

cid,

cid, the Interſtices pale, lurid, or aſh-coloured: a Rigor comes on, a Fever ſucceeds with great Difficulty of Breathing, Faintneſs and Sickneſs; a perpetual Anxiety, Tremors, Subſultus, Delirium, &c. ſoon follow.—Such a Change is to be expected, if the Puſtules break out very numerous the firſt, ſecond, or third Day from the Seizure; if after the compleat Eruption they do not fill well, keep up round and properly pointed, but grow flat, and run abroad, or have a ſmall *Dimple*, or *black Speck* in the Middle; if they are not ſurrounded with a *florid Baſe*, and look themſelves wan, or darkiſh coloured:— If the Urine withal hath continued, or grows pale, crude, and thin, and the *carotid* and *temporal Arteries* throb much, no ſmall Danger is impending.— Here then the Phyſician muſt in a more eſpecial Manner watch his Patient with the utmoſt Diligence; for the Affair of Life and Death is now to be tranſacted in a few Hours: — and, though no abſolute Rules can be well laid down in a Diſeaſe, that is attended with ſuch a great Variety of Accidents as the Small-pox; yet perhaps the following Hints may not be altogether uſeleſs.

1*ſt*,—If the Swelling of the Hands doth not regularly ſucceed the Tumor of the Face, and the Swelling of the Feet that of the Hands, it is juſtly reckoned an ill Symptom; for this is a regular and critical Tranſlation of the morbid

bid Humors to those Parts, and commonly happens when the Salivation begins to abate, and the Face subsides. Where therefore Circumstances are threatening, I would advise the Application of Epispastics to the *Wrists and Ancles*, a little before we expect the Tumor of the respective Parts should come on; for these not only more certainly draw the Humors there, but also gives them Vent: And I think the Use of emollient *Cataplasms*, or *Fotus*, to the Parts should for some Time precede the Blisters, as they would also tend to solicit these critical Tumors. —*Baglivi* * says he ordered Sponges soaked in emollient Decoctions with great Success. — Sometimes indeed Nature, of her own Accord, throws the morbid Matter on the Extremities with such Violence, as to create great Inflammation, Tumor and most exquisite Pain; which nothing will so effectually relieve as emollient Fomentations, by relaxing the Parts, and opening the Pores.

The foregoing Method I recommended above twenty Years ago †, and have since practised it in Abundance of Instances with great Advantage. — The premature Recession of critical Tumors is always of very dangerous Consequence, with so even the common Gout: insomuch that we are many Times obliged to fix it by acrid

* *De Variolis & Morbillis.*

† *Philosoph. Transact.* No. 390.

Cataplasms.

Cataplasms. — In the above Case, Blisters not only attract, but discharge, the morbific Matter. I very frequently add *Cantharides to the Cataplasms*; and I find it is now a Practice with some very great Physicians to apply Blisters to the Soles of the Feet, in Cases of Danger.

2dly,—If Heat, Head-ach, Sickness and Load at Stomach, great Restlessness, or Stupor, come on about the sixth or eighth Day from the Eruption, the Body being costive, as most commonly it is; a plain Clyster of Milk, Sugar, and Salt, seldom fails of giving immediate Relief: and this is especially necessary, when the Sick make frequent but vain Efforts to Stool. For the Excrements, baked up by Heat and long Retention, are crowded into the *Colon* and *Rectum*; where pressing on the Bottom of the *Aorta*, *Iliacs*, and Neck of the Bladder, they hinder the free Descent of the Blood to the lower Parts, whence the Head and Breast are overloaded: Besides, they suppress the Urine, and neither Wind, Stool, nor Water, can be discharged till the indurated Excrements are softened, and the Guts relaxed, lubricated, and irritated to their Office by a proper Clyster.— Indeed I seldom suffer my Patients, particularly young Persons, to grow so exceeding costive; for I generally order an emollient Clyster, if necessary, to be injected every second, third, or fourth Day from the very Begining, till I enter

enter on the Uſe of gentle Purgatives; which keeps the Patient much cooler, and renders the Uſe of Anodynes much more ſafe and effectual; For very often they will have little or no Effect, till the Body is unloaded, or bring on a comatoſe Diſpoſition.

And yet, *3dly*,—Anodynes are almoſt always proper, nay neceſſary, in the Small-pox, eſpecially at and towards the Criſis: were it for nothing but to aſſwage the Pain from the Inflammation of the Skin and Puſtules, they would be required; for if one Boil is attended with ſo much Uneaſineſs, what will ten thouſand occaſion? However the Pain and Soreneſs complained of, is generally a good Symptom:—It is certainly a very bad one, when neither the Skin nor Puſtules inflame or grow painful; for it argues a great Deficiency of the *Vis Vitæ*, Want of a due Circulation in the extream Capillaries, and an univerſal *Torpor*.—Let me further add, that towards the State eſpecially, the Opiates ſhould be given early in the Evening, before the Exacerbation comes on, and in larger Doſes; and if Need be, oftener repeated.—*Diacodium* here ſeldom proves ſufficient, unleſs in Children.—The Doſe of the Anodyne particularly ſhould be always encreaſed the Evening before we expect the Criſis, in order to quiet the Tumult, which generally comes on the

the enſuing Night; for, as *Hippocrates* * obſerves, the Night before the Criſis, in all Fevers, is moſt troubleſome. When the Patient is very feveriſh and hot, I find it beſt to give the Opiate with ſome *Acid*, or out of a *ſaline Draught*; but, when low and languid, with *Theriaca*, or ſome *Alexipharmac.*

4thly,—If at the Approach of the ſecondary Fever the Pulſe beats very quick, hard and ſtrong, the carotid Arteries throb greatly, the Heat grows intenſe, the Breathing very difficult, and an acute Pain of the Head, or more or leſs of a Phrenzy comes on; you are to bleed immediately, or in a very ſhort Time the Caſe will be irrecoverable.—It is obſervable, that the Blood drawn, under ſuch Circumſtances, is extreamly viſcid, and as buffy as in the higheſt Pleuriſy: It is very evident, that it is in a very inflammatory State, from the Ophthalmies, Quinſies, Peripneumonies, Rheumatiſms, and external Inflammations, which commonly ſucceed.

But *5thly*,—If on the contrary the Pulſe flags, the Patient faints, the Puſtules and the Interſtices grow pale, ſhrivelled and ſunk, or livid, the Extremities coldiſh or clammy; you can ſcarce give too warm Medicines, Drinks, *&c.* nor apply too many Bliſters: I have ſeen

* *Aphoriſm* 13. *Sect.* ii.

very

very large Quantities of warm Wine given under ſuch Circumſtances with ſurpriſing Succeſs.

6thly,—About the Cloſe of the *third Stadium* of the Small-pox, the Salivation commonly abates much, and the Matter very often grows ſo exceeding thick and glutinous, that it is ſpit off with the utmoſt Difficulty, and threatens Suffocation every Minute almoſt, unleſs perpetually deterged by proper Gargles, Syringing, *&c.*—I know no *Gargles* better in this Caſe than *Cyder* and *Honey*, or *Vinegar*, *Water*, and *Honey*, or *Oxymel ſcilliticum*, with a little Nitre or crude *Sal ammoniac.* Muſtard alſo may be boiled with Advantage in the Gargles, when a ſtronger Stimulant is wanting.—The vegetable Acids are much more ſaponaceous and abſterſive than Spirit of Vitriol, though more commonly uſed.—Many Times all theſe are ineffectual, and nothing but an actual Vomit will relieve; *Sydenham* vomited in this Caſe with *Vinum benedictum* to ℥iſs.—We have much milder but equally efficacious: nay *Oxymel ſcilliticum* frequently given many Times ſucceeds, by gently puking, and eaſing both Expectoration and Reſpiration.—Beſides it hath the further Advantage of promoting Urine and Stool, which are very often deficient at this Time of the Diſeaſe; but, when the Caſe is urgent, it ſhould be quickened by a Decoction, or Infuſion of *Ipecacoanha.* I have had Honeſty and Reſolution

Resolution enough to put this in Practice several Times, where this was the *derniere Ressource*, and thereby have sometimes evidently snatched my Patient from the Jaws of Death, though at the Risque of my own Reputation; but truly sometimes also I have lost both.—But I shall ever be of *Celsus*'s Opinion, to try a doubtful Remedy rather than none.—It is not very uncommon to find the Tongue and Fauces covered with a vastly thick, adhesive, whitish, or brown *Pellicle*, so that they look as if they had been *parboiled*; and the *Oesophagus* and *Aspera Arteria* are commonly in the same Condition: This neither Vomit, Gargle, nor aught else will remove, and is a very bad Symptom, as it shews there is no Manner of Secretion through the Glands of the Parts.

The great Tenacity of the Mucus of the Mouth, Fauces, *&c.* many Times arises from Want of drinking freely, through the Course of the Distemper.—But this is absolutely necessary to dilute the Blood, support the Salivation, fill the Pustules, wash off the morbid acrid Salts, and supply the Vessels with more wholesome Fluids: The very Aliment in this Disease should be, nay must be, chiefly liquid; as Solids, for the most Part, can be neither relished, nor swallowed.—In the black, confluent Small-pox you must drink, or die:—Thin acidulated Whey, *Decoct. Lusitan.* Gruel, or

Water

Water with Rheniſh or ſmall French White-wine, Cyder and Water, or the like, are exceeding proper; and if either Petechiæ, or Hæmorrhages, appear, Tincture of Roſes, or Claret and Water well acidulated.

But, *7thly*,—When the Incruſtation is perfectly formed, and the Salivation abates, we muſt ſtudy to promote ſome other Evacuations; for nothing now is to be further thrown off on the external Habit, little or nothing now can tranſpire through the cruſty, ſcaly Skin, which invelopes the Body like a Coat of Mail, or rather, in its Conſequences, like the poiſonous Shirt of *Hercules*: for it not only vaſtly hinders Perſpiration, but alſo confines the *Pus* and *Sanies*, which grow every Hour more and more putrid, and, being continually reſorbed into the Blood, bring on, feed, and augment the ſecondary Fever.

If we can keep up the Salivation, and promote a due *Flow* of well concocted Urine, at this Period, Things go on tolerably well; but, very often, they both greatly fail all on a ſudden, and the Patient falls into the utmoſt Danger.—Here all Endeavours ſhould be uſed to renew theſe Evacuations; more Bliſters ſhould be forthwith laid on, and an emollient laxative Clyſter immediately injected: Expectorating Mixtures likewiſe of *Oxymel ſcilliticum*, *Lac ammoniac.* &c. ſhould be frequently uſed.

Moreover, it is of no ſmall Advantage at this Time of the Diſeaſe to ſhift the Linnen of the Sick, which is now grown exceeding foul, ſtiff and ſtinking, and become vaſtly uneaſy to them :—Beſides it very much pollutes the Air of the Chamber, and renders it ſo very unfit for Reſpiration, that even the moſt Healthy can ſcarce bear it ; nay it not only hurts the Breathing, but the *Miaſmata* of this poiſonous *Mephites* are continually paſſing into the Blood again through the *Vaſa inhalantia*, Lungs, *&c.* and further corrupt the Blood. It is ſurpriſing to find how greatly the Sick are refreſhed on changing the Air of the Room, by prudently opening the Windows and Doors, and removing the ſtinking Linnen, *&c* : — They have new Life, as they frequently and properly expreſs it ; for freſh Air is the Breath of Life.— It is certainly of the higheſt ill Conſequence to confine ſuch putrid Air, and the Sick in it.— The abſurd Method of making a Kind of *Hoſpital Chamber* in a Houſe, and crowding up two, three, or more Sick in it, is a moſt dangerous Practice, and I have often known it manifeſtly fatal :—The Stench, the Groans, the Cries of one diſturb and offend the others ; it is rare that they ſleep all together, but they are too often kept waking ſo : It is bad Living by ſuch bad Neighbours.—Whatever may be pretended, there is no Manner of Danger in ſhift-

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ing the Sick, provided it be carefully done into very dry warm Linnen; but it is a ſilly Notion to have the Shirt, or Shift, worn by another Perſon for twelve or twenty-four Hours before it is put on the ſick Perſon.—Can it not be made fully dry and warm without ſo doing? Will not the Perſpiration, or Sweat, of the moſt Healthy dirt and damp it?

But of this enough: I return to the Affair of Evacuation, and ſhall conclude this Head with ſome Obſervations on Purging in the ſecondary Fever of the Small-pox.

When the Salivation proceeds regularly, the Puſtules keep up and maturate kindly, the Swellings of the Face, Hands and Feet come on in due Seaſon, and the Patients ſleep quietly, and breathe freely; all Things are well, and Nature is moſt effectually doing her own Work, and ſhould be properly ſupported in it, but never diſturbed.——Here I even abſtain from Clyſters, though the Patient may have been coſtive for ſeveral Days together, till after the compleat Incruſtation; and then they are proper to prepare for the ſucceeding Purges, which without all Doubt are then neceſſary.

But it very often, nay almoſt always, happens in the *coherent* and *confluent* Pox, at, or before, this Period, that more or leſs of a *ſecondary Fever* comes on; partly from the Reſorption of the Matter of the external and in-

ternal Puſtules, partly from the ſuppreſſed Perſpiration, and partly from the putrid *Colluvies* of the inteſtinal Canal: which cannot but be very conſiderable, as undoubtedly Part of the morbific Matter, ſeparated by the Glands of the Mouth, Fauces, *&c.* is ſwallowed, and a great deal more muſt be ſecreted by the Glands of the Guts, biliary Ducts, *&c.* into the Inteſtines: For, as vaſtly leſs than uſual now paſſes off through the Skin, a much greater Quantity of Humors muſt fall on the Bowels; it being a well known Maxim, that the Leſſening of one Evacuation is the Encreaſe of another, and alſo that there is a peculiar Conſent between the Skin and the Guts: To all this likewiſe is added the purulent Matter of the variolous Puſtules, that may happen to be in the Stomach and Inteſtines.—So that there cannot but be a great Lodgment of very putrid Matter in the firſt Paſſages, which grows the more and more virulent, the longer it continues there, and is perpetually paſſing again into the Blood, through the *abſorbing Veſſels of the Guts*, and becomes a Fewel to the Fever, which Nature endeavours even this Way, partly at leaſt, to throw off.—Should it remain there then, or ſhould it be carried off? The Anſwer is obvious.—Nature of her own Accord commonly attempts it with the greateſt Advantage in the Adults, and almoſt always in Children, to

whom a Diarrhœa is a Kind of *ſuccedaneum* to the Salivation of elder Perſons. — Is not this then a ſufficient Indication how to relieve her at ſuch a Juncture? And in Truth, what horribly fœtid, putrid, large Stools do we obſerve in this Diſtemper, on the Uſe of a Clyſter, and more eſpecially after a Purgative, I mean at the State, or in the Declination? Nay this Maſs of Corruption lying long in the Guts, and growing daily more putrid, becomes at laſt ſo extreamly acrid as to corrode them; at leaſt ſo greatly irritates them, as to bring on that very Diarrhœa, or Dyſentery, which ſome ſo vainly fear will ariſe from a gentle Cathartic.

But further, if Nature, neither by her own Effort, nor the Help of Art, is capable of keeping the morbific Humors from falling on the more vital Parts, but, from an unfortunate Tranſlation of it, is like to ſink under its Weight; as upon a ſudden Retroceſſion of the Tumor of the Face and Hands, a premature Suppreſſion of the Salivation, or the like; doth it not ſeem neceſſary to carry off the offending Matter by ſome other Outlet, as particularly by the Guts, which are much more eaſily and certainly ſolicited to a Diſcharge than the Pores of the Skin, the urinary Paſſages, or the *ſalivary Ducts*? — Indeed when the Salivation of Courſe ceaſes, in my Opinion, it ſeems proper to promote ſome other Evacuation in its Room;

and if we uſe a Clyſter, or a gentle Purgative, we may readily reſtrain too great a Diſcharge by an Opiate.

It hath, and may be objected to this Practice, that it tends to draw the noxious Humors from the external Habit to the Vitals.— But to this I anſwer, that Purging is more eſpecially pleaded for, when the Incruſtation is formed, and the morbid Matter concocted, at leaſt as much as ever it will be (for a due Concoction, or Maturation, is never to be expected in the lymphatic Kind); that it is particularly contended for, when an unfavourable *Metaſtaſis* of the morbid Matter hath already happened, and cannot well and readily be removed by other Means; that this is ſubſtituted in the Place of a ſuppreſſed critical Evacuation, and that Nature attempts, nay ultimately requires a Diſcharge this Way; that there is no other Method of diſlodging the putrid Colluvies in the Inteſtines, that feeds the ſecondary Fever, but this; and that whenever there is a great Quantity of foul corrupt Matter in the firſt Paſſages, of what Kind ſoever, there is a conſequent Fever: witneſs verminious, crapulary, bilious Fevers, which cannot be carried off but by purging and vomiting; laſtly, that every one allows the abſolute Neceſſity of purging at the Cloſe of the Small-pox; otherwiſe Boils, indurated Glands, foul Ulcers, carious Bones,

Bones, rotten Lungs, or a conſuming Hectic, certainly ſucceed.

But when I recommend Purging in the ſecondary Fever of the Small-pox, I would always adviſe to begin with the moſt lenient cool Cathartics: The *draſtic*, *ſcammoniate*, *aloetic Purgers* are certainly highly improper till the Fever greatly abates; then indeed ſome ſtronger Purgatives (to which I always join ſome *Calomel*) ſhould be uſed. The imprudent Uſe of ſtrong hot Purges at the Begining, the not giving a proper Anodyne after the Purges, and the Want of duly ſupporting the Sick during the Operation, have, I am perſuaded, been frequently attended with ill Conſequences; but am very ſure, that Purging in the ſecondary Fever, in the Manner I have adviſed, is of great Service, and I have ſeen very many Inſtances of its great Succeſs.





A DISSERTATION ON PLEURISIES *and* PERIPNEUMONIES.

CHAP. I.

Of the Power of the Winds and Seasons in producing these Distempers.



S Pleurisies and Peripneumonies are, and always have been, so very common, *Hippocrates* hath said much more upon them than on any other of the acute Diseases; and his Observations are found most perfectly just, and will be ever highly worthy of a diligent Perusal by all Physicians.—One of them is, that cold north-easterly Winds bring on Disorders of the Breast, Sides and Lungs *;

* *Aphorism.* 5. *Sect.* iii.

and

and this hath been found conſtant and true by all his Succeſſors.——Not but that Pleuriſies, and Peripneumonies eſpecially, are frequently obſerved in other Conſtitutions of the Air, the latter very often ſupervening other acute Fevers: Yet ſtill it is certain, theſe two Diſeaſes are much more frequent, when a cold dry Seaſon, and northerly and eaſterly Winds, have continued for any conſiderable Time.

The obvious Effects of dry cold Winds on the human Body are, conſtringing the whole external Habit, making the Skin more dry and corrugated, ſhutting up its Pores and leſſening Perſpiration, at leaſt ſuffering only the thinner Part of the Humors to fly off. By a dry Cold alſo the whole Syſtem of the Fibres is made more ſtrong, firm, and elaſtic, and the Action of the Veſſels, on the contained Fluids, more vigorous and forcible; whence a briſker Circulation, more Heat, Spirit, and Activity; by which the Globules of the Blood are rendered more denſe, compact, and numerous, and the whole Maſs of Humors diſpoſed to a greater Degree of Tenacity. — It may be added, that as cold and dry Air is almoſt always very heavy and elaſtic, by its greater Preſſure on the Body, it will co-operate with its cold and dry Qualities, in producing greater Effects.— It is Fact, that, *cæteris paribus*, Blood drawn, in ſuch prevailing Conſtitutions of the Atmoſphere, is

is conſtantly found more denſe and viſcid than in long moiſt warm Seaſons ; — and that Perſons ſubject to aſthmatic Diſorders ſuffer moſt during the Continuance of north-eaſterly Winds.

However all theſe Effects may conſiſt with high Health, and commonly do ſo ; and therefore *Celſus* (though reckoning up the Diſorders produced by cold northerly Winds) ſays * *ſanum tamen corpus ſpiſſat, & mobilius atque expeditius reddit.*

But alas ! ſuch is the frail Eſtate of mortal Man, that the Tranſition from high Health to great Diſeaſe is moſt eaſy and exceeding common : For this high, rich, denſe Blood, agitated by ſtrong and vigorous Veſſels, is extreamly apt to be wrought up to ſuch a Degree of Viſcidity, as makes it unfit to paſs the ultimate Ramifications of the Arteries : from which Obſtructions, and conſequent Inflammations, moſt eaſily ariſe ; eſpecially on any Exceſs in Diet, or Exerciſe, on obſtructed Perſpiration, or any ſudden Alteration in the Temperature of the Air, which may rarefy the Humors in general much more ſuddenly, than it can relax many of the particular Veſſels. —— Whence, by the bye, thoſe Pains in Limbs, formerly broken, in *Cicatrices* of old Wounds,

* *Lib. II. Cap.* i.

in

in callous Concretions on the Toes, *&c.* (where the minute Vessels have been rendered more straitened in their Capacities, and more rigid in their Coats) are observed to rage on sudden Changes of Weather into stormy, or wet and warm; which nothing so soon removes as an emollient Fotus, by enlarging and softening the Vessels:—Every old Woman tells you to soak your Corns, when they pain you.— And this Method also is of very great Service in those Pains of the Side, which often remain after Pleurisies or Pleuro-peripneumonies, for Years together, and which are owing to a preternatural Coarctation of the Vessels by the past Disease, and the Adhesion of the Lungs to the Pleura: And which many Times, on great Rarefaction of the Blood, Changes of Weather, *&c.* bring on the Disorder afresh, and make the Patient subject to frequent Returns of it for ever after.

It is true indeed, that Persons of a very viscid State of Blood and rigid Fibres are subject to inflammatory Disorders of all Kinds, in all Seasons; but some Constitutions of the Air however are not only more apt to produce this inflammatory Blood than others, but also dispose more to Inflammations of particular Parts. For when very cold Air constringes the external Habit, corrugates the Skin, and shuts up the Pores, more Blood than ordinary is forced

on

on the internal and more vital Parts, particularly on the Lungs; which, by the vaſt Expanſe of their internal Surface (greatly exceeding that of the whole Skin *) are deſigned by Nature to aſſiſt the Skin, in exhaling off the ſuperfluous acrid and vapid Humidity of the Blood; and therefore, where the Pores of the Skin are in any Degree ſhut up, the Exhalation from the Lungs ſhould compenſate the Defect of the cuticular Diſcharge.—And we in Fact find, that, immediately on taking Cold, the Lungs are more or leſs affected by Cough, a large Diſcharge of thin *Rheum*, and very often in a much ſeverer Manner.—But when the very cold Air is likewiſe continually admitted into the Lungs, it alſo corrugates their internal Membrane, ſhuts up its excretory Ducts, and ſo hinders a due Exhalation, and Expiration, if I may ſo ſay, of the Surcharge from the retained *Perſpirabile*.——It may be added, that the Air, by its great Degree of Coldneſs and Nearneſs to the Blood in the pulmonary Veſicles and Cellules, is apt to congeal, at leaſt greatly to condenſe it: There have been many Inſtances, where extream cold Air hath cauſed an abſolute and ſudden Stagnation of the Blood in the Lungs, and killed almoſt inſtantaneouſly. We find often that very cold Winds ſo af-

* *See Dr.* Hale's Vegetable Statics, *p.* 239.

fect, and contract even the Skin of the Hands, Arms, and Face, as to make it rough, cracked, and sore; why may we not suppose it hath a similar Effect on the more tender and delicate Membrane of the *Trachea Arteria*, *Bronchia*, &c? In Truth the Cough, Hoarseness and Soreness, we commonly feel in breathing such a cold Atmosphere, shew that it really hath so. The *Pharynx* and *Larynx* are very often so affected by severe cold Winds, as to suffer violent Inflammations, Tumors, *&c.*

It is easy to conceive then, where a greater Quantity than ordinary of dense sizy Blood is thrown on the Lungs, and where the Vessels of the Lungs themselves are inordinately constringed, and the excretory Ducts and Orifices of the Glands of the Wind-pipe, Bronchia, *&c.* are considerably obstructed; that peripneumonic Inflammations will be very readily generated.

But further, a very viscid Blood, the natural Consequence of a long, dry, cold Constitution of the Air, will not only dispose to Inflammations in general, and to peripneumonic Disorders in particular, but also to the pleuritic. For as the Arteries, expanded on membranous Parts, are extreamly small; they are of Course liable to be obstructed by a gross sizy Blood: And hence Rheumatisms are also very common in such Seasons, the membranous Parts

of

of the Mufcles being inflamed by a vifcid Lentor.—But the *Pleura* is a Membrane very largely extended, and fpread over with an infinite Number of very fmall Arteries, Ramifications of the Intercoftals, which, arifing nearly at right Angles from the *Aorta*, by that Means receive the more vifcid Part of the Blood, as being the lighter (the heavier paffing on nearer the *Axis* of the great Artery) and hence are exceeding fubject to Obftructions from an inflammatory Lentor: And fo are likewife the intercoftal Mufcles, and *Periofteum* of the Ribs, which receive the Blood, in Part at leaft, from a like Diftribution of the Arteries.

Hence Pleurifies, as well as Peripneumonies, are found exceeding common, or epidemic, in very cold dry Seafons; and in high, cold Situations, much expofed to north-eafterly Winds, they are commonly endemic. Indeed pleuritic Diforders, properly fo called, are apt to bring on the peripneumonic, and very frequently do fo, for Reafons which will be given hereafter.—Hence it comes to pafs, that we find many more Pleurifies complicated with peripneumonic Symptoms, than true and exquifite Pleurifies; and this compound Difeafe the Moderns very properly call a *Pleuro-peripneumony*.

As thefe two Difeafes are fo often conjoined, the Ancients, as well as many of the Moderns, have quite confounded them, afcribing the fame Symptoms

Symptoms both to one and the other indifferently; but there is a real Difference certainly both as to the Seat and Symptoms of these two Diforders.—Indeed the Ancients, as *Cælius Aurelianus* * informs us, were greatly divided in their Opinion as to the Seat of a Pleurify, fome affirming it to be an Affection, or Paffion of the Pleura, properly fo called; others of the Lungs and its Membranes: Both which Opinions have had their refpective Abettors alfo amongft the Moderns.—I flatter myfelf, the following Remarks will more fully explain their Nature and Method of Cure.

CHAP. II.

Of the Peripneumony and Pleuro-peripneumony.

A Peripneumony, in the largeft Senfe of the Word, is a Difeafe fo common, either as an original Malady, or confequent to fome other, that its Nature fhould be diligently ftudied by every Phyfician; as it is a morbid Affection of one of the principal Organs of Life, is very frequently attended with the utmoft Danger, and requires very different Treatment in its different Stages.—Befides there are very different Degrees, I might fay Species, of this Difeafe, which demand a particular Attention, and a Method of Cure peculiarly adapted to each.

* *Lib. II. Cap.* xvi.

For a Peripneumony, arifing from a violent Inflammation of the Lungs, by a very fizy denfe Blood obftructing very many of the pulmonic and bronchial Arteries, is a quite different Difeafe, and requires a very different Treatment from an Obftruction of the Lungs by a heavy, vifcid, pituitous Matter; as is the Cafe in what late Writers call a *Peripneumonia notha.*— And this again fhould be managed in a Method very different from that, which is proper in one depending on a thin, acrid Defluxion on the Lungs. And yet there are fome general Symptoms common to them all, particularly a Load at the Breaft, a fhort difficult Breathing, a Cough, and more or lefs of a Fever: which few obvious Symptoms however give the general Denomination of a Peripneumony, tho' in Nature very different, and to be treated very differently.—For in the *firft Cafe* fpeedy, large, and repeated Bleeding is abfolutely neceffary to leffen the Quantity and Force of the too rapid Blood, with the moft cooling, relaxing, diluting Diet and Medicines.——In the *fecond* fome Blood indeed may be drawn off, at the very Begining, to prevent the further Impaction of the obftructing Lentor, and make Room for proper inciding diluting Attenuants; but if you are too bufy with your Lancet, you weaken the Patient, not the Difeafe, which requires Attenuants, Detergents, Expectorants, gentle Pukes and proper Purges,

Purges, with the free Uſe of Bliſters; which I think are quite naught in the former Caſe, unleſs towards the Cloſe of the Diſeaſe, when they may be ſometimes neceſſary.—The *third Caſe* may require Bleeding alſo, to hinder the Advance of the Inflammation; but here the ſoft, lubricating, demulcent Method, with ſome proper and frequent Opiates in moderate Doſes, are demanded, which in the *ſecond Caſe* would be utterly deleterious.

Great Regard muſt be had alſo to the different Stages, even of the ſame Kind of Peripneumony, and the different Symptoms that attend it. For tho', at the Begining of a ſevere Inflammation of the Lungs, large and repeated Bleeding may be indiſpenſably neceſſary; yet if, after the ſecond or third Bleeding, the Patient begins to ſpit off freely a well concocted Matter tinged with Blood, you are to reſtrain further Evacuation that Way; otherwiſe you weaken your Patient without Neceſſity, and often entirely ſuppreſs the Expectoration to his utter Ruin.—And yet if a conſiderable Quantity of thin, florid, ſpumous Blood is ſpit off, you ſhould draw more Blood, quiet the Cough with cool Opiates, as *Diacodium*, or the like, and give pretty freely of proper *Acids* with ſoft cooling *Incraſſants:* Whereas if it is a thin, gleety, dark-coloured Matter that is expectorated, it is generally a Mark of greater Malignity, and

that the Blood is in a putrefying diſſolving State, and will by no Means bear a large Emiſſion of Blood.——In ſhort the Diſeaſe is quite another Thing, when the Inflammation is forming, from what it is when the obſtructing Matter is concocted, or actually ſuppurated.

But to be more particular.——If a Perſon juſt before in full Health, ſhould on violent Exerciſe, Debauch, or a ſevere Cold, be ſeized with a great Shivering, ſucceeded by burning Heat, very much Oppreſſion and Load at Breaſt, with a very difficult, quick, hot Reſpiration, and more or leſs of a Cough; Blood is to be drawn immediately, in a pretty large Quantity from a large Orifice: The ſtronger and more plethoric the Patient, the larger the Quantity, yet ſo as to ſtop on the Appearance of Faintneſs, cold Sweat in the Forehead or Face, Yawning, and the like; which may in a great Meaſure, many Times, be prevented by bleeding the Perſon in a recumbent Poſture.—In general fat corpulent Perſons do not bear Bleeding as well as the lean and muſcular, as neither having ſo much of the red globular Part of the Blood, nor their Veſſels ſo elaſtic.—Beſides the Age and Size of the Perſon are to be conſidered: It would be abſurd to draw as much from a Dwarf as a Giant, tho' both ſtrong in their Kind; the very young and very old are not the propereſt Subjects for it, tho' both ſometimes require it.

Sanctorius obferves, that antecedent to Fevers the Body grows more heavy, and of Courfe more plethoric; and the *Rigors* fhew a *Vifcofity* in the Blood, that ftagnates in the Extremities of the capillary Arteries: (it may be even feen in the Nails, Lips, *&c.* by their growing pale and livid) and this encreafing *Lentor* will of Courfe leffen Perfpiration, and encreafe the Quantity of Humors.—Generally the more violent the *Rigor* or *Horror* is at the Attack, the more violent is the fucceeding Fever; and this may in fome Meafure alfo guïde us in drawing off Blood, as we muft expect, on a violent and long continued Rigor, a high Fever, and a very vifcid State of the Blood.

If the Symptoms are not relieved by the firft Bleeding, after eight, ten, or twelve Hours more Blood fhould be drawn, nay even fooner if they become more aggravated; and this muft be repeated, if the Fever, Oppreffion, Anxiety and Difficulty of breathing encreafe, or continue equally fevere: efpecially if the Blood drawn appears very firm and denfe, or covered over with a tough yellowifh *Coat*, or *Buff*, as it is called; which however very frequently doth not appear till the fecond or third Bleeding, tho' the Symptoms may indicate a very high Inflammation.——And this very often happens by the Trickling of the Blood down the Arm from a fmall Orifice, too ftrait a Ban-

dage, or by the Sliding of the Skin over the Orifice: by any of which the Blood is hindered from ſpouting forth in a full Stream.

This denſe buffy Appearance of the Blood, with a firm ſtrong Pulſe, will warrant the drawing off Blood, till the Reſpiration at leaſt becomes more free and eaſy.—But if the *Craſſamentum, or concrete Maſs*, is of a very looſe Texture, and not covered with a ſizy Coat or Buff, and the Pulſe ſeems to ſink, flutter, or grows more weak and ſmall on Bleeding; it is Time to deſiſt, and try other Methods of Relief.—A thin, bluiſh *Film* on the Blood, with a Kind of ſoft greeniſh Jelly immediately underneath, (the *Cruor* itſelf being livid, looſe and ſoft, with a turbid reddiſh or green Serum) is a Sign of a very *lax Craſis* of Blood, and *great Acrimony*, which will not bear large Quantities to be drawn off.—Nay even a very florid, thin, looſe Blood, that gives off little or no Serum after ſtanding ſome Time, however *ſpecious* it may appear to unexperienced Perſons, is far from being the *good Blood* they imagine; but generally argues, in this Diſeaſe eſpecially, a very conſiderable Advance to a putrid and very acrid State: For by mixing Spirit of Harts-horn, or Sal ammoniac with Blood from the moſt healthy, as it runs off, it always puts on ſuch a florid Appearance, and gives off little or no Serum,

how

how long ſoever kept, but ſtill remains looſe, and as it were half fluid.—It is obſervable that Spirits of Harts-horn uſed frequently, and in large Quantities, diſſolves the Blood, and brings on profuſe Hæmorrhages; which, I think, is an Obſervation that ſhould be well conſidered by thoſe, who take ſo frequently and freely of that Spirit.

A ſtrong, throbbing, quick Pulſe in Peripneumonies always indicates further Bleeding, at leaſt till ſome Degree of Eaſe in breathing, or a free Expectoration of laudable Matter is obtained.—But it frequently happens that the Pulſe, even at the very Begining, ſeems obſcure and oppreſſed, irregular, ſluggiſh, and ſometimes intermitting, the Patient at the ſame Time complaining of great Weakneſs and Oppreſſion, which would ſeem to contraindicate Bleeding; and yet the Load at Breaſt, Difficulty of breathing, great Anxiety, and Heat felt about the Præcordia, loudly demand it.—This often puzzles the young Practitioner.—But he ſhould conſider, that ſuch a ſudden Want of Strength, Spirits, and Pulſe, doth not ariſe from Want of Blood, as the Duration of the Diſeaſe for a few Hours, or a Day or two, cannot be ſuppoſed to have exhauſted the vital Liquid to any conſiderable Degree.—The Truth is, not the Defect, but the too great Quantity of Blood, in ſuch Caſes, is the real Cauſe of theſe Symptoms.—

For the Blood-vessels being overloaded with Humors, and distended beyond the due Tone, cannot act with sufficient Vigor.—The *Æquilibrium* between the Solids and Fluids being not duly kept up, the moving Vessels are unable to protrude the Blood with a due Force: just as too great a Weight on the *Embolus of a Syringe* hinders its free Play. Hence indeed soon follows a Deficiency of Spirits, from Want of a due Circulation of the Blood, and proper Secretion of them; and thence a Tendency to Stagnation, Concretion, and a large Train of direful Symptoms, and even Death itself, unless timely prevented by sufficient Bleeding; which, by diminishing the too great Quantity of Blood, restores the *Æquilibrium* between the Solids and Fluids, and a free Action to the elastic, muscular Canals, which now again exert more Force on the contained Humors, and carry on the Circulation in a more regular and constant Manner: All which tend to attenuate the too thick and viscid Blood, and render it more fit for the Secretion of animal Spirits, which may further invigorate the Action of the Heart and Vessels.—So that in such Cases, *Letting of Blood* is so far from weakening, that it really raises the Powers of Nature; as is always evident on drawing Blood from plethoric Persons, labouring under an oppressed Pulse, as it is properly

properly called, which is found conſtantly to riſe on bleeding.

In ſome very violent Peripneumonies, where both the Lobes of the Lungs are greatly inflamed and obſtructed, an immediate and exceſſive Weakneſs comes on, with an inexpreſſible Anxiety, and Oppreſſion at the Breaſt, a very ſmall, weak, trembling Pulſe, Coldneſs of the Extremities, with clammy, coldiſh, partial Sweats, the Eyes ſtaring, fixed, and inflamed, the Face bloated and almoſt livid; and all this ſoon followed with Stupor, *Delirium*; and I have ſeen in ſome Caſes (though few indeed) with a *compleat Paraplegia*.

This is in Truth a very dreadful Caſe, but doth not ariſe from Want of Blood, but from Want of a due Circulation and Diſtribution of it: For there being ſo many and great Obſtructions in the Branches of the pulmonic Artery, the Blood is ponded up in the Lungs, and hindered from paſſing freely, as it ought, from the right Ventricle of the Heart to the left; ſo that the Aorta and its Branches do not receive Blood enough to carry on the common Offices of Life, on which ſoon follows an abſolute Stagnation and immediate Death.—Diſſections have ſhewn this to be the Caſe, the Lungs having been found quite ſtuffed up with concreted Blood, red, hard, and as it were fleſhy, or rather of the Colour and Conſiſtence of

Liver, and ſo heavy, that any Part of them, cut off, ſunk in Water *. — If any Thing can be done in this moſt deplorable Caſe, it is by early and immediate Bleeding, or it becomes in very few Hours utterly irrecoverable.—I have ſeen ſome ſurpriſingly good Effects from Bleeding in both Arms at once, when done in proper Seaſon.

And yet there are ſome Kinds of Peripneumonies, that will by no Means bear large Bleeding, as hath been noted by Phyſicians of the beſt Authority. — And I have obſerved the ſame in ſeveral epidemic Peripneumonies, particularly in the latter Part of the Year 1745, and the Begining of 1746 †; during which we had an epidemic Peripneumony, in which after a ſecond Bleeding (and even ſometimes after a ſingle Bleeding) the Pulſe and Strength of the Patients ſunk to a ſurpriſing Degree; and they ran into a Sort of nervous Fever with great Tremors, *Subſultus Tendinum*, profuſe Sweats, or an atra-bilious Diarrhœa, with a black Tongue, *Coma*, or *Delirium*; though at the Begining the Pulſe ſeemed to be full and throbbing, and the Pain, Cough, and Oppreſſion ſo very urgent, as to indicate Bleeding pretty ſtrongly.—Now in theſe Caſes, the Blood was ſeldom found *buffy* to any conſiderable Degree, but commonly very

* *Vid. Hoffman. de Febribus pneumonicis Obſ.* i.

† *Vid. Obſ. noſtr. de Aere & Morb. epidem. Vol. II.*

florid,

florid, but of a very *loose and soft Consistence*, or *very dark-coloured, and coated with a very thin and bluish or greenish Film*, under which was a soft *greenish Jelly*, and a *dark livid Cruor* at the Bottom.—Sometimes indeed the Coat was much thicker and more *tough*, but of a *pale red Colour resembling the Cornelian Stone, or dilute Jelly of red Currants.*—This last Appearance I have frequently noted in real Pleuro-peripneumonies.—Whenever I see such a loose, dissolved Blood, I am very cautious how I advise further Bleeding, especially if I find the Pulse, or the Patient become more languid after it, however the Oppression, Load, or even Pain, may seem to require it.—It was from Observations of this Kind that *Lancisi*, and *Baglivi* from him, caution against further Bleeding, when no *sizy Coat* appears on the Blood in the second Bleeding: *In Pleuritide, Peripneumoniâ,* &c. *si in sanguine è venâ sectâ extracto non appareat in superficie crusta alba, — pessimum ;— si vero in altera sanguinis missione incipiat apparere, bonum : contra si in secundâ ne quidem apparebit, abstineto statim à sanguinis missione, aliter interficies ægrotantem* *. — And I concur with *Baglivi* in the first Part of the *Prognostic* as well as the last, having always found the very florid Blood, drawn in the Begining of pulmonic Fevers, of very ill *Omen* ; for it shews, that either the *Crasis* of the Blood is much broken and dissolved;

* *Cap. de Pleuritide.*

ſolved, or that the groſs inflammatory Blood ſticks in the pulmonary Arteries, and that nothing but the very thinneſt and moſt ſerious Part can tranſude and paſs into the left Ventricle of the Heart.

I cannot but obſerve however, that ſometimes in Peripneumonies and Pleuro-pneumonies, the firſt, and even the ſecond Blood ſhall not appear buffy, and yet the third ſhall be very ſizy, and this particularly if the Blood trickles down the Arm, and doth not come off in a full Stream; but then it is ever to be obſerved that this Blood, tho' apparently florid, when cold, is very denſe and tenacious; whereas in the Caſe I mentioned above, the Blood, tho' very florid, was of a very looſe and ſoft Contexture, and never formed into a regular firm Craſſamentum.—Such a Kind of looſe, diſſolved, florid Blood was frequently drawn from *Sea-faring Perſons* in the Begining of the Year 1746 *, and was always attended with very ill Symptoms, very often fatal.—Such malignant Peripneumonies indeed very frequently happen to *Sailors* after long Voyages, and to Perſons very *ſcorbutic.*—They grow firſt of all very ſhort-breathed, liſtleſs, and faint on the leaſt Motion, and have tranſient erratic Chills, Heats, and Pains all over their

* *Vid. Obſ. noſtr. de Aere,* &c. *Vol. II. Menſ. Jan. Febr. Martio.*

Body;

Body; a Fever ſucceeds with a vaſt Load on the *Præcordia*, and a ſhort, importunate, dry Cough, a very quick, ſmall, and much ſofter Pulſe than uſual in true inflammatory Peripneumonies, clammy, unequal Sweats, and a perpetual Reſtleſſneſs and Anxiety; at laſt they begin to ſpit a *thin*, *gleety*, *bloody*, *or very dark-coloured Matter*, frequently of a very *offenſive Smell*: Moreover theſe are not uncommonly attended with an Eruption of red, brown, livid, or black *Petechiæ*. The *Urine* is commonly of a blackiſh dull Hue, or of a *firey lixivial Colour*, *as if a ſmall Portion of Blood was diſſolved in it*: this is rendered in ſmall Quantities, and without any Manner of Sediment; but the former hath ſometimes a large livid *Hypoſtaſis*, ſometimes nothing but a Matter like coarſe Bran irregularly ſcattered up and down in it.—As theſe Symptoms are greatly argumentative of a broken Craſis of Blood, and high Acrimony of the Humors; large Bleeding is not likely to be ſucceſsful, tho' too often imprudently uſed.

Though the Appearance of a pretty thick ſizy Coat on the Blood is in general no ill Symptom in pulmonic Fevers; yet where it is exceſſively tough, and extreamly yellow, or of a pale lead Colour, it threatens Danger, and ſhews the inflammatory Lentor is highly wrought up, and vaſtly difficult to be reſolved or attenuated,

and

and that it will ſcarce admit of any Commixture with any of the Diluents, that are taken in.— This ſeems apparent from the *odd Shape*, the *Craſſamentum* of the Blood often puts on, of a *globular*, or rather a Kind of an *oblate ſphæroidal* Figure, after large and frequent Bleeding in violent pleuritic, or peripneumonic Fevers; for then the Cake of Blood is found to ſwim in a great Quantity of very thin, and ſometimes a quite limpid, Serum; its greatly *contracted, concave* Surface, or Coat, being almoſt as tough as Leather, and the whole Maſs nearly as hard and firm as a Piece of Fleſh.—Now in this Caſe, as a great Deal of the globular Part of the Blood was drawn off by repeated Bleeding, the Craſſamentum is much leſſened in its Quantity; but ſtill retains its greatly morbid Viſcoſity, and its Globules, being vaſtly denſe, attract one the other exceeding ſtrongly, as appears by the Figure and Conſiſtence of the Craſſamentum: and tho' the Proportion of the Serum may have been greatly augmented, by the Uſe of plentiful Diluents; yet it appears from the Tenuity and Limpidneſs thereof, that they have not been well mixed and united with the globular, and ſulphureous or oily Part of the Blood. Nay it is often obſerved, that thin, watery Diluents are drank in large Quantities, in theſe ſevere Fevers, and rendered off by Urine almoſt

moſt as limpid and inſipid as Water *, or run off in vaſtly profuſe Sweats; not in the leaſt mixing, in a due Manner, with the Blood, properly ſo called, nor in the leaſt acting on the Salts and Sulphurs thereof, their exceeding firm Combination eluding the Force of the Diluters. I have repeatedly ſeen this in Pleuro-peripneumonies, where the Pain hath remained, almoſt as violent as ever, after the fourth or fifth Bleeding, and the globular Part of the Blood hath been ſo reduced, as that the Craſſamentum hath ſcarce been a ſixth Part of the Volume of the whole Blood, and yet as ſolid as a Piece of Fleſh.—Theſe Caſes are generally mortal.

If after the ſecond or third Bleeding, nay if after the firſt, your Patient begins to ſpit off freely a yellowiſh concocted Matter, lightly tinged with Blood, ſtop there, and particularly if the Breathing becomes more free, as it commonly doth; otherwiſe you will weaken your Patient to no Purpoſe, nay to a bad one, and quite ſuppreſs the Expectoration, by which Nature is now throwing off the Diſeaſe by the moſt proper *Criſis*, and ready *Outlet*; the obſtructing Matter in the Extremities of the bronchial and pulmonic Arteries being ſo far reſolved, con-

* *Hippocrates* obſerves that making Water, immediately after Drinking, is a dangerous Symptom in Pleuriſies and Peripneumonies, *Coac. Prænot. Sect. V. Ed. Lind.*

cocted, or digested, as to pass off freely into the Cavities of the *Vesiculæ*, *Bronchia*, &c. and so up, and out of the *Trachea*, by Cough and Expectoration: whence the extream Branches of these Arteries become again passable, and the Circulation thro' the Lungs at last duly restored.

That there is a Passage from the bronchial Arteries, into the Cavities of the Trachea and its Ramifications, is evident; for the *oily Mucus*, which in a natural State lines and lubricates the internal Membrane of the *Aspera Arteria* and its Branches, is separated from the bronchial Arteries. — And it is also certain that Water, Serum, *&c.* pass freely from the pulmonary Arteries into the bronchial, vesicular, Cavities; as appears from the Experiments of *Ruysch*, and the accurate Doctor *Hales*.—Indeed as the bronchial and pulmonic Arteries, in their different Ramifications, join by innumerable *Anastomoses*; even by this Way the pulmonic Arteries may have a Communication with the *Bronchia*. — Now when the obstructing Matter is so duly attenuated and concocted, and the Vessels so far dilated as to give a free Passage; it is thrown into the Cavities of the Bronchia, and so out of the Lungs by Expectoration.—It seems evident that the lateral, or serous Branches of those Arteries, at their Extremities, are so far dilatable as in some Cases to pass red Globules, and that too freely, into the Cavities of the Bronchia; as

is particularly ſeen in thoſe Spittings of Blood, which are made *per Diapedeſin*, as *Galen* and the Ancients called it; For I think it is pretty certain, that ſome *Hæmoptoë*'s do not ariſe from a Rupture of the Veſſels, as no Manner of Pain, Purulence, or the like, precede, ſucceed or accompany them.

But where theſe ſmall Veſſels of the Lungs are by Nature or Art made eaſily dilatable, they ſuffer leſs from inflammatory Lentor, than where they are very rigid and elaſtic; as commonly happens in the Robuſt and Laborious, who according to the Obſervation of *Hippocrates* are moſt ſubject to, and ſuffer moſt from Inflammations of the Breaſt and Lungs*.—And this indeed is confirmed by every Day's Experience; and ſo is likewiſe the following Remark of the ſame great Father of Phyſic, relating to the laudable Expectoration I mentioned above, "Αἷμα δὲ ξυμμεμιγμένον μὴ πολλῷ πτύελον ξανθὸν, "ἐν τοῖσι περιπλευμονικοῖσιν, ἐν ἀρχῇ μὲν τῆς νούσου, "πτυόμενον περιεστηκὸν † καὶ κάρτα ὠφελέει": *Hippocr. Prognoſt.*. And indeed it hath been the Obſervation of the very *Nurſes* in ſome epidemic *Pleuropneumonies* and *Peripneumonies*, that all

* *Coac. Prænot.* 29. *Lib.* II. *Cap.* xvi. *De Pleuritide*, *Edit. Dureti.*

† So I chuſe to read with *Foëſius* rather than περιεκτικὸν, as more agreeable to the Senſe and the *Hippocratic* Diction.

thoſe

thoſe who ſpit Blood do well.—However this is very far from being always true, unleſs the Matter is conditioned as above: for whenever either very frothy, or ſincere florid Blood is ſpit up, or black and partly coagulated, ſpongy, liver-coloured Blood, it is quite otherwiſe; as it ſhews that there is nothing like Reſolution, or Digeſtion of the obſtructing Matter perform-ed; but that, the Obſtruction being deeply ra-dicated, and the impelling Force of the Heart vehement, ſome Veſſels are burſt open, and an Extravaſation of Blood made into the Cavities of the Lungs, and ſo ſpit up.—For when great Obſtructions are formed in ſome Parts of the Lungs, the Blood muſt be forced in greater Quantities, and with greater Rapidity, thro' the Veſſels that are pervious; which hence, being overdiſtended, frequently break, and the Blood guſhes into the Cavities of the Bronchia, and many Times into the inmoſt Receſſes of the veſicular Cells.—What of this Blood is ſpit off immediately appears florid and frothy, and does no further Damage; but the chief Misfortune is, that a great Part of it remains commonly in the Lungs, and ſtuffs up the Air-Bladders, and compreſſes and obſtructs their Blood-veſſels; which very much encreaſes the Difficulty of breathing, and greatly hinders the Circulation of the Blood through the Lungs.—Beſides as it is exceeding difficult to be pumped up from

theſe minute veſicular Cells, by continuing there it grows more and more putrid, till at length it becomes a corroſive Sanies, that deſtroys the very Subſtance of the Lungs: But of this more hereafter.

As all Inflammations of the Lungs will either quickly choak the Patients by hindering the Paſſage of the Blood thro' them, or terminate in Suppuration, Gangrene, or Scirrhoſity, if the obſtructing Matter is not ſoon kindly reſolved, or digeſted; we ſhould be as early as poſſible in our Endeavours to abate, and take off, the Inflammation by Bleeding in due Quantities: for when once an Abſceſs is actually forming, Bleeding can be of no further Service. — Nay, when once the *Phlegmon* is too far advanced to be reſolved, Bleeding is really diſadvantageous, as retarding the next Operation of Nature, to free herſelf from the offending obſtructing Matter, by a kindly Suppuration: For by this Means the Matter is made to ſtagnate longer, and ſo grows more and more acrimonious: which at length, by affecting the adjacent Parts, forms a much larger Impoſtume than would have happened at firſt, if Nature had been left to her own regular Proceedings; nay many Times it ends in a downright Gangrene, and ſometimes in an obſtinate Scirrhoſity, making the ſhort Remains of Life extreamly miſerable.

Physicians note in general, that, after the fourth or fifth Day of a true Peripneumony, Bleeding is of little avail to prevent the Suppuration; for most *Phlegmons* begin to suppurate in that Time, if not resolved before: This will more especially and sooner happen in such a Part as the Lungs, surrounded on all Sides by Warmth and Moisture, and so near the Heart acting on the inflammatory Obstruction with constant and great Force.— So that where the peripneumonic Symptoms continue with great Violence for four or five Days or more successively, an Abscess, or Mortification, is justly to be feared, and little Advantage is to be expected from further Bleeding.

But yet, if either the Pain returns with Violence after having ceased a considerable Time, or seizes another Part of the Breast; it is an Argument that a new Inflammation is forming, which indicates Bleeding as much as the primary, tho' not to the same Degree: for this accessary Seizure being altogether of the same Nature, and on the same *Organ* as the former, requires the same Method to prevent its Advance and further ill Consequences. The Strength of the Patient and Pulse, the Violence of the Pain, and Difficulty of Respiration, are in a great Measure to determine the Quantity: And some Regard must be had also to the Colour and Consistence of the Blood, and the

Quantity

Quantity and Quality of the Serum. I have ſometimes ordered Bleeding the ninth or tenth Day from the firſt Attack, and found the Blood almoſt as ſizy as what was drawn the ſecond or third, and that too where the Lancet had not been timorouſly uſed; but the Craſſamentum, tho' exceeding tough, was greatly reduced in the Proportion it bore to the Serum.

It is commonly obſerved, that as ſoon as this ſecondary Attack and Pain come on, with any Degree of Violence, the Expectoration, tho' before free and copious, ceaſes altogether, or is performed with very great Difficulty; the Violence of the Pain not ſuffering the *Thorax* to be duly expanded, and the Muſcles of the Lungs, Breaſt and Abdomen to act with ſufficient Force to eject the Matter: Not to mention that the Inflammation hinders a due Secretion of the lubricating *Mucus*, which ſhould naturally be ſeparated to ſmooth over the internal Membrane of the *Trachea* and *Bronchia*, and expedite the Diſcharge of any Matter contained in them.—And we eventually find that, after the Inflammation is abated by Bleeding, the Expectoration returns with Eaſe and Freedom.

So that tho' in Peripneumonies and Pleuro-peripneumonies you are chiefly to make your Evacuations by Bleeding before the fifth Day; yet on freſh Attacks of violent Pain, difficult Reſpiration and ſuppreſſed Expectoration, you

are to begin again, as it were, a-new *, but with great Caution and Moderation: as all Relapses, in these Cases especially, are dangerous, the Sick growing daily weaker and less capable of bearing any considerable Loss of Blood. And therefore it will be very imprudent, upon every little Pain, to have Recourse to Bleeding; for more or less Pain continues, particularly after Pleuro-peripneumonies very often, a long Time after the Fever is quite gone off: *Debet prius cessare febris, & postea dolor affecti lateris*, says *Baglivi* †.—But Bleeding is, in a peculiar Manner, less proper where a copious Expectoration of laudable Matter goes on pretty easily, tho' it should still continue tinged with Blood, for the Reason I hinted above; *viz.* that it indicates the Resolution and Concoction of the Matter of the new Inflammation. Nay, it is for that very Reason to be avoided, tho' often imprudently ordered, and Astringents stupidly administered, to restrain this slight *Tinge* of Blood: But it is by Persons, who have very little attended to Nature's Operations, and less to *Hippocrates*, her great Interpreter.—It is without all Doubt vastly more proper to alleviate the Pain and Importunity of the Cough by gentle Opiates, cooling, soft, Demulcents, and easy Expectorants.

* *Hippocrates* bled *Anaxion* the eighth Day, because the Pains continued, and he did not expectorate. *Lib. III. Epid.*

† *Prax. medic. Cap. de Pleuritide.*

I have

I have only two Things more to add on the Article of Bleeding in pulmonic Diſorders.—The firſt is, that Bleeding in the *Saphæna*, or Foot, is much leſs practiſed in ſuch Caſes than might be expected from the Reaſon of Things, and the certain Experience of its great Efficacy in ſpitting Blood from the Lungs; I mean after ſome proper Quantity of Blood may have been drawn from the Arm; *Alexander* the *Trallian* †, many Centuries ſince, adviſed it as very uſeful in that Caſe.—The ſecond is, that where the Pulſe and Strength of the Patient ſeem not to favour further Blood-letting from a large Vein, and yet the oppreſſive, laborious, painful Cough and Suffocation remain very urgent; Drawing off Blood by Cupping on the Shoulders, *&c.* may be done with Safety, and frequently gives exceeding great Relief in Diſorders of the Breaſt, as well as of the Head, tho' the Reaſons may not be ſo very obvious and aſſignable. However it muſt be conſidered, that the greater Part of the Blood, drawn this Way, is arterial Blood;—and that the Uſe of Bliſters, Iſſues, Setons, and even Cupping on thoſe Parts is very notorious in aſthmatic Coughs, Defluxions on the Lungs, *&c*; and ſeems to ſhew that Revulſions and Evacuations, made this

† *Cap.* vii. *p.* 94 *Ex Edit. Rob. Stephan. Lutetiæ*, 1548. Fol.

Way, may be very ſerviceable in Inflammations of the Lungs, and in Event they are ſo.

Although Bleeding in all Inflammations of the Lungs is indiſpenſably neceſſary in ſome Degree, and ſome Times, when well timed and executed, quite curative; yet in general there are ſeveral other Indications to be anſwered: For both the Fever, and the particular Inflammation, require a cool diluting Regimen, and nitrous and relaxing Medicines, together with a moderately cool free Air, and as much Quiet as poſſible both of Body and Mind. It avails little to draw off ſome of the ſizy, obſtructing, inflammatory Blood, if the Remainder is not cooled, diluted, and thinned, and a further Generation of the inflammatory Lentor prevented by nitrous Attenuants, cool ſaponaceous Medicines, diluting, relaxing emollient Drinks, Emulſions, &c. which a hot Regimen, hot Medicines, hot Air, much Motion of Body and Agitation of Mind tend greatly to encreaſe. Perſons in aſthmatic Paroxyſms are under a Neceſſity of keeping a quiet Poſture, and of breathing cool Air, or they are in immediate Danger of Suffocation; how much more ſo then are theſe neceſſary, where there is not only a great Obſtruction in the Veſſels of the Lungs, but alſo an Inflammation in their very Subſtance? — A cloſe, narrow, ſtifling Room is exceedingly incommodious to any Perſon ſick of

of a Fever, but much more ſo to thoſe ill of a Peripneumony, as I have many Times obſerved, eſpecially among the lower Part of Tradeſmen, when two or three Families perhaps live in a Houſe together.—*Celſus's* Advice is never more proper, nay neceſſary, in any Kind of Fever than in a peripneumonic, *in amplo conclavi tenendus æger* * —If ſuch cloſe Rooms cannot be avoided, they certainly ſhould be frequently, but prudently aired.

Few or no Peripneumonies, or Pleuro-peripneumonies, end well without a free and copious Expectoration; for this is the natural *Criſis* of theſe Diſorders, as hath been noted by *Hippocrates* and all judicious Phyſicians, and the Want of ſpitting off the morbid obſtructing Matter in a due Manner reckoned extreamly dangerous, Αἱ ξηραὶ τῶν Πλευριτίδων ἄπτυςοι χαλεπώταται † — And again in the *Prognoſtic* ‖ he ſays, it is a very bad Symptom when μηδὲν ἀνακαθαίρηται, — ἀλλὰ πλήρης ἐὼν ζέη ἐν τῷ φάρυγγι — The more eaſy, early and large the concocted Expectoration is, ſo much the better. Indeed generally at the Begining it is crude and thin, but ſoon becomes of a whitiſh yellow Colour and greater Conſiſtence, when Matters proceed rightly; and about the third Day it is commonly ſtreaked with Blood, or

* *Lib III. Cap.* vii. *Edit. Dureti.* † *Coac. Prænot.* 3. *Cap.* xvi. ‖ *Sect.* xiii. *Edit. Linden.*

the Blood is ſo incorporated with it as to give it a bloody *Tinge*, *flavo-rubeſcens* as *Baglivi* * calls it, or in the *Hippocratic Phraſe*, Πτύελον ὕφαιμον. — This Kind of Matter, when freely ſpit off, gives great Relief to the Reſpiration, Pain and Oppreſſion at the Breaſt, and generally terminates the Diſeaſe in ſeven Days.

But nothing more effectually promotes Expectoration (by attenuating and reſolving the impacted Matter) than drinking freely and frequently of cooling, relaxing, and gently ſaponaceous Diluents; ſuch as thin Whey, the *Barley Ptiſan* with Liquorice, Figs, &c. the Decoction, or rather Infuſion of the *pectoral Herbs*, as Ground-ivy, Maiden-hair, Colts-foot, Hyſſop, &c. — Theſe ſhould be gently acidulated with Juice of Lemon, or Sevil-oranges: — if any Thing more detergent is wanting to the above Drinks, *Honey* may be added: An admirable, natural, cordial *Sapo*, thrown almoſt out of the modern *Materia Medica* I know not why, nor how; for where it gripes or purges one, it agrees with a thouſand, and even its griping and purging Quality may be eaſily corrected by boiling.—*Hippocrates* uſed *Oxymel* and *Mulſum* in ſuch Caſes, and adviſes againſt drinking mere Water in pulmonic Fevers, as neither good for the Cough, nor to promote Expec-

* *Cap. de Pleuritide.*

toration

toration * : — Any or all of these Things, by Turns, drank warm anfwer the above Intention exceedingly well, if taken in frequent but fmall Draughts, fipping them as it were perpetually; for by this Means much of the relaxing, refolving Vapor is alfo drawn into the Lungs, and much probably abforbed by their imbibing Veffels; fo that relaxing and diluting is thus carried on in a double Manner, and of Courfe very effectually. Very large Draughts fhould not be taken at once; for they overcharge the Stomach, produce Indigeftion and Flatulence, and force up the Midriff too much, which greatly embarraffes the Refpiration: —Therefore *Hippocrates* advifes to drink in thofe Difeafes out of a Cup with a narrow Mouth †, probably both that the Liquor and Vapor might be preferved warm longer, and that lefs might be drank at a Time, and alfo that the Steam might be more copioufly carried into the Mouth and Nofe.—However ftill he advifes to drink freely to promote the Expectoration, without which the Patient dies ‖ :—And

* *De Vict. in Morb. acut. Sect.* xxx. *Edit. Linden.*

† Μὴ ψυχρὸν, ὀλίγον δὲ ἐκ Βομβυλίου οὐκ εὐρυςόμου; *for fo it fhould be read, or fimply* Βομβυλίου, *as all the Commentators agree, Lib. III. de Morbis, Sect.* xxiv. *Edit. Linden. See* Galen, Erotian, *and* Foëfius, *on the Word* Βομβύλιος.

‖ *Lib. I, de Morbis, Sect.* xxvi. — *De Locis in Homine, Sect.* xxx. xxxvii. *Edit. Lindeni, and in many other Places.*

many

many Kinds of Drinks he advifes for this Purpofe, but particularly recommends Barley-water, Honey and Water, Oxymel, and Vinegar and Water.

Thefe relaxing emollient Drinks and Vapors are in a more efpecial Manner neceffary, when the Expectoration is very difficult and tough, and for thofe of a *ftrigofe* Habit of Body and very rigid Fibres; fuch as hard labouring People, and thofe of a hot and dry Conftitution, generally are. For as a very dry Air, whether cold or hot, is found to hinder a free and copious Expectoration; a moift and warm * one cannot but promote it, by relaxing the Veffels, and attenuating alfo in fome Degree the over vifcid Humors.—*Baglivi* † greatly recommends the *fervida potio* for refolving pulmonic Obftructions, but I think a moderate Degree of Warmth is more proper both for refolving and relaxing.—Fomentations applied too hot on the external Parts are found to incraffate the Humors, and corrugate the Skin, and are vaftly improper upon inflamed Parts. — The Vapors may be made more or lefs ftimulating, or relaxing, as the Cafe requires. — I have known the Fumes of Vinegar itfelf of no fmall Service in malignant Peripneumonies: Several

* Aretæus *fays, neither cold Drink nor cold Air are good in Pleurifies.*

† *De Pleuritide.*

Kinds

Kinds of Medicines may undoubtedly be administered with great Advantage by Way of Vapor: The Steam of *camphorated Vinegar* is no contemptible Thing in many Cases.

Hippocrates and the Ancients were so sensible of the Necessity of Expectoration in pulmonic Disorders, that they not only endeavour to promote it, by the Means I have mentioned; but also in difficult Cases used much more powerful Expectorants*: The Cream of Barley with Honey or Oil, Oxymel, Hyssop, Rue, Galbanum, Mustard, Pepper, *Silphium* † were some of the milder: in desperate Cases white Hellebore,|| Elaterium, Ἄνθος χαλκȣ̃ were advised: and desperate indeed they must be to be justified now-a-days; but as they had then no other, desperate Remedies were to be tried in desperate Diseases.—We have a much more ample *Materia Medica*, and can avail ourselves of Things of a much gentler Nature. — But I have several Times given an Emetic in Peripneumonies with great Advantage, when the Expectoration hath been suddenly suppressed, and the Difficulty of Breathing greatly augmented; but it

* Ἰσχυρότατα ἐπαναχρεμπτήρια φάρμακα; *De Locis in Homine, Sect.* xxx. *Edit. Linden.*

† *Lib. III. de Morbis, Sect.* xviii. xxv. *Edit. Linden, & alibi passim*; *and* Aretæus *advises much the same Things in Pleurisies and Peripneumonies.*

|| *Lib. III. de Morbis, Sect.* xvii. *Ed. Linden.*

was

was when a proper Quantity of Blood had been drawn antecedently, and the Violence of the Fever abated: but in ſuch Caſes very little ſhould be drank after it to promote the Vomiting. *Oxymel ſcilliticum* frequently doth great Service this Way, and its Virtues in relieving aſthmatic Diſorders are notorious: It not only, in a proper Doſe, pukes gently, but is alſo an excellent cooling Attenuant, and uſeful *Eccoprotic*, and a very good Diuretic: It is undoubtedly greatly ſuperior to ſimple Oxymel, and may be ſo blended with oleaginous emollient Medicines as to be highly ſerviceable, as an eaſy Expectorant. — Where very ſoft, demulcent lubricating Medicines are indicated, our common *Linctus* of *Sperma ceti*, *Ol. amygdal. dulc.* or cold drawn *Linſeed-oil* with *Syrup. althææ*, *Papav. errat. diacodium*, or the like, anſwer the Intention.—But where Oils diſagree, a Mucilage of Quince-ſeeds, or Linſeed with *Rob* of Elder-berries, or black Currants, or their Syrup, or that of Poppies, is very uſeful and grateful. — *Nitre*, that very neceſſary cooling Attenuant, is very agreeably adminiſtered in either of theſe Compoſitions; and perhaps *Camphire*, given this Way, is the leaſt nauſeous.— The utmoſt Care ſhould be taken never to give ſtrong Expectorants in the Begining of Peripneumonies, till proper Bleeding, &c. may have allayed the Impetuoſity of the Blood and Fever; otherwiſe they will encreaſe the Inflammation

mation and Danger of Suffocation, and eventually intercept what they were deſigned to pump up: The Matter ſhould be firſt concocted, and then expectorated.—Another Thing is alſo neceſſary to be obſerved in the Uſe of ſuch Expectorants as *Oxymel ſciliticum*, oily Medicines, gummoſe Mixtures, and pectoral Decoctions; and that is, that we do not bring on any conſiderable Purging, which will certainly ſuppreſs the Expectoration, and endanger the Life of the Patient.

Though a free Expectoration of concocted Matter is of the higheſt Service in the Cure of Peripneumonies and Pleuro-peripneumonies, and ſhould be always encouraged; yet there are ſome Kinds of Expectoration of very *ill Omen.*—It is particularly a very ill Sign, when much ſincere florid, or frothy Blood is ſpit up, and thus it is pronounced by *Hippocrates* and *Aretæus*; though they both ſpeak ſo favourably of the concocted Matter that is expectorated with a bloody *Tinge*: The former condemns the Πτύελον λίην αἱματῶδες *, the later the Δίαιμον αἰθηρὸν σφόδρα; nay *Aretæus* ſays, Ἐστὶ τὸ Δίαιμον τῶν ἄλλων κάκιον †, and I think ſo too for the Reaſon above-mentioned; for this freſh frothy Blood proceeds from a Rupture of Arteries in the Lungs, and not from a Reſolu-

* *Coac. Prænot.* 17. *Lib. II. Cap.* xvi. *de Pleuritid. &c. ex Edit. Dureti.* † *Cap. de Pulmonaria.*

tion

tion of the inflammatory Obſtruction. Now, if Arteries are burſt in the Lungs, the Blood guſhes into the Cavities of the Bronchia, ſometimes in ſuch Quantities as to cauſe a ſudden Suffocation, if not immediately brought up: but more commonly it leaks into the pulmonary Veſiculæ, and many Times Veſſels are broke in the inmoſt Receſſes of the Lungs, Part of which may indeed be ſoon ſpit up freſh and florid, but much is very apt to remain in the ultimate Ramifications, and cellular Interſtices of the Bronchia; which ſtuffs up the Lungs, compreſſes the ſurrounding Blood-Veſſels, and at length putrefies and corrodes all around it: Hence a ſpeedy Suffocation, a dangerous *Vomica*, or a direct Gangrene frequently enſues.—This extravaſated Matter alſo may indeed be partly ſpit off in the Form of a bloody *Sanies*, or of livid and black Concretions; but it is commonly with ſuch Difficulty, and ſo violent a Cough, as even to encreaſe the Extravaſation: But it is generally ſo imperfectly, that much remains in the Lungs, and produces moſt fatal Conſequences. *Hippocrates* * therefore declares ſuch a Kind of Expectoration exceeding dangerous; and truly it is moſt commonly a Sign of an impending Mortification, or one actually formed. — I re-

* *Prognoſtic.* — *Coac. Prænot.* 45. *Cap. de Pleuritid. ex Edit. Duret.*

member

member many Years ſince to have obſerved a Matter ſpit up at the Cloſe of a Peripneumony, by one Mr. *Clark*, a Maſter of a Merchant-ſhip of this Town, which exactly reſembled Pieces of boiled Spleen, or rather more ſpongy, ſome of which were very fœtid: He died the 19th Day of the Diſeaſe. This correſponds with a Prognoſtic of *Baglivi* * from *Dodonæus*: *Qui ſpuunt ſanguinem nigrum poroſum* †, *ad inſtar ſpongiæ, iis pars aliqua ſphacelo correpta eſt in pulmone, & omnes pereunt.*

As ſoon therefore as this Expectoration of florid Blood appears, I immediately direct Bleeding in ſuch Quantities, as are adapted to the Strength of the Patient; in order to abate the too rapid Motion of the Blood, leſſen the Inflammation, and prevent as much as poſſible the further Effuſion of Blood amongſt the pulmonic Veſiculæ and Cellules, where it would do infinite Miſchief. — If the *Hæmoptoë* continues, Bleeding in the *Saphæna* will be found of the utmoſt Service.—Beſides this, cooling Emulſions, nitrous, demulcent, mucilaginous Medicines, vegetable Acids, and even mineral, if the *Hæmoptoë* be very conſiderable, are required: A Decoction of red Poppies, Colts-foot and Figs, acidulated with Elixir of Vitriol,

* *Vid. Baglivi Opera, Lugduni* 1704. *4to. p.* 87.

† Αἵματος θρόμβους μέλανας. *Hippocr. Lib. III. de Morbis, Sect.* xix. *Edit. Linden.*

makes an admirable Drink in ſuch Caſes:—— And we muſt endeavour to moderate the Violence of the Cough by *Diacodium*, a ſoft Linctus, or the like.—But I utterly diſapprove of ſtrong Aſtringents, and large Doſes of Opiates, as I have often known the imprudent Uſe of them, in ſuch Circumſtances, bring on a vaſt *Orthopnœa*, and moſt terrible Symptoms: For the extravaſated Blood muſt be ultimately ſpit off, or the Patient never recovers; but this is impoſſible without more or leſs of a Cough to pump it up.—I have ſeveral Times known very large Impoſtumations happen after ſuch Kind of Peripneumonies, where the Patient had ſurvived the Fever for ſeveral Days, nay for ſome Weeks.

Though a morbid *Viſcoſity* commonly prevails in pulmonic Fevers, yet there are not a few, in which an acrid *Tenuity* is predominant. —And as we obſerve in *Ophthalmics*, the *Defluxion* ſometimes as thick as *Glew*, ſometimes as thin as *Water*, and ſharp as *Brine*, fretting the very Skin of the Cheeks as it trickles down; ſo the Matter expectorated in ſome Peripneumonies is extreamly thin and crude, and the Defluxion ſo very acrid as to excoriate the Wind-pipe, &c. and cauſe an inceſſant and very violent Cough.

The ſharp thin Humors, in catarrhal Fevers, very often bring on peripneumonic Symptoms,

toms, by causing a constant Irritation and Agitation of the Lungs; and no small Mischief likewise arises from the violent Concussions, that are occasioned by the frequent *Sneezing*, which commonly attend such acrid *Catarrhs*, which are sometimes so *virulent* as to inflame the Nostrils, and blister the very Lips.—The great Father of Physic, in his *most admirable Prognostic*, hath pronounced it very dangerous when *Catarrhs* and *Sneezing* precede, or supervene peripneumonic Diseases.——I once knew very severe pleuropneumonic Pains immediately brought on by a Fit of Sneezing, after they had quite ceased for a very considerable Time.

In this *catarrhal Peripneumony*, if I may so term it, no great Loss of Blood is necessary; some however should be drawn, in the Beginning, to abate the present inflammatory Disposition, and prevent future ill Accidents. Blisters also should be applied early, to avert and draw off the acrid Defluxion: And here even gentle Purgatives are proper to carry off the serous *Colluvies*. The Author of the second Book *de Morbis*, amongst the *Hippocratic* Writings *, advises to purge in an *Erysipelas* of the Lungs, where the Expectoration is large and thin: And I have frequently experienced the good Effect of Purgatives in these catarrhal

* *Sect.* liii. *Edit. Linden.*

Peripneumonies, though they are utterly improper in thoſe that are attended with a laudable concocted Expectoration. Much leſs Drink is neceſſary in this Peripneumony than in the dry Kind; ſome *demulcent pectoral Ptiſan* however is proper to temperate the Acrimony of the Humors, and ſhould be taken warm with ſome mild Diaphoretics, to promote eaſy breathing Sweats: *Coffee* in this Caſe is both a pleaſant and a profitable Drink. Some gentle Opiates likewiſe are required to moderate the Cough, ſuch as Diacodium, or *Elixir aſthmaticum*, not in large Doſes, but frequently repeated; with which may be joined Spermaceti, Myrrh, Olibanum, and Camphire, as they will alſo tend to incraſſate the thin catarrhal Humor, and abate its Irritation; which, as *Hippocrates* ſays, brings on Peripneumonies, *&c.* which ceaſe as ſoon as the Defluxion becomes more thick and concocted *.

But of much worſe Omen, than this thin crude Expectoration, is the *livid*, *gleety*, and *ſanious*, frequently reſembling the *Leys of red Wine*, ſometime more *black*, and ſometimes very *fœtid*; for this either proceeds from a gangrenous State of the Lungs, or from a Deſtruction of the Craſis of the Blood by very great Acrimony, which is often the Caſe in the highly

* *De veteri Medicina, Sect.* xxxiii. *Edit. Linden.*

ſcorbutic:

fcorbutic: A vaft many Inftances of which we have lately had amongft the *Sailors*, after long Cruifes and *Weft-India Expeditions.*—The Blood drawn from fuch Peripneumonies appeared in a diffolving putrefcent State; the *Craffamentum* loofe and tender; the *Serum* turbid and reddifh: The black Tongue, and Teeth furred with a dark thick *Sordes*, the offenfive Breath, and high-coloured, or blackifh rank Urine, which were generally obferved, denoted a great Corruption of the Humors; and the black Spots, or bloody Dyfentery, which frequently appeared the fifth, fixth, or feventh Day, more ftrongly evinced it.—It was furprifing how much the Pulfe and Strength of the Patient funk after Bleeding in fuch Cafes: With no fmall Concern and Aftonifhment I feveral Times obferved a vaft Anxiety, Fainting, cold Sweat, and a thready intermitting Pulfe, very foon fucceed it; though at the very Begining of the Fever, and when the Pulfe feemed ftrong and throbbing before.— I have feen this even in Pleuro-peripneumonies, where the Pain of the Side was violent, the Load at Breaft great, and the Cough confiderable; otherwife the peripneumonic Appearance might have been imagined to be a mere Symptom of a malignant Fever.—I am very fure this putrid Peripneumony never bore a fecond Bleeding with Advantage, feldom indeed the firft, un-

 lefs

lefs there was fome confiderable Degree of *Firmnefs* and *Tenfion* in the Pulfe *.— When I was diffident as to Bleeding, I ordered Scarification and Cupping fometimes with Succefs; though in one or two Cafes, the Effufion from the Scarifications was vaftly profufe, and could not be totally reftrained, till the Patient expired.

Here then fome *anti-putrefcent* pectoral Medicines are neceffary; a Decoction of Figs, Colts-foot and red Poppies, well acidulated with Juice of Sevil-orange, or Lemon firft, and then with *Gas Sulphuris*, or *Elixir Vitrioli*, is very proper.——Nitre, *Olibanum*, Myrrh, Flowers of Sulphur and Bole may be administered with *Conferv. Lujulæ*, *Rob* of Elder or Currants, Mucilage of Quince-feeds, and *Syrup. de Rubo Idæo*: *Camphorated Vinegar* with Syrup of Elder and Rasberries is an excellent Medicine; a Spoonful or two of thefe Latter fhould be given ever and anon. Sound *Cyder*, and Wine and Water with Sevil-orange or Lemon Juice, drank warm, promote Expectoration when deficient, and correct the *alkalefcent Acrimony*.—Tincture of Rofes with red Poppy Flowers, moderated an inordinate Defluxion of the thin bloody *Ichor*; frequently however *Oxymel fcillit.* & *Aq. Cinnamom. fort.*

* *Vid. Obf. noftr. de Aere, &c. Vol. II. Jan. Febr.* 1746.

were

were neceſſary to pump up the Matter, when a great Rattling in the Wind-pipe, and Difficulty of Breathing, indicated a vaſt Quantity of it in the Lungs: And yet very often the Importunity and Violence of the Cough was to be appeaſed by *Elixir aſthmaticum*, *Diacodium*, *&c.*——Sago, Panado, Jelly of Hartſhorn, roaſted Apple, Cream of Barley, or thick Gruel with a little Wine and Juice of Lemon, given little at a Time, but often, were neceſſary to ſupport the Patient; even Strawberries, Rasberries, Currants, Cherries, were ſometimes indulged with Advantage. Nor is this a new Practice; for *Aretæus* * adviſes the Fruits of the Seaſon, ſuch as Figs, *&c.* in the Cure of Pleuriſies; and the ſame Author very juſtly ſays, that Food may be ſo adapted, as to be made Phyſic †.—I have been more large in the dietetic Part; for in a Word a proper Support of the Patients, and gaining Time till the Acrimony of the Humors was corrected, and the Lungs diſburthened from the putrid Colluvies, ſeemed to be the great Affair; at the Cloſe, at leaſt, the whole depended on a well-regulated Diet, in which Toaſt with diluted red Port-wine, mulled up with Sevil-orange Rind, Mace, or Cinnamon, and well acidulated,

* *De curatione Pleuritidis.*

† Ἐν Τροφῇ γὰρ κέεσται τὰ φάρμακα, ἀτὰρ καὶ τὰ φάρμακα ἐν Τροφῇ. *Ibid.*

ted, were remarkably uſeful.—I ſeldom found Bliſters of any Service in this Caſe, often indeed miſchievous, fretting much, and venting a vaſt deal of thin bloody Matter, and ſometimes attended with Mortifications.

A very thin yellow Spitting, as if tinged with Saffron, is another ill Symptom in pneumonic Fevers; as either denoting that the inflammatory Lentor ſticks faſt in the Arteries of the Lungs, and that nothing, but the ſerous and thinneſt Part of the Blood, is ſtrained through them; or elſe it ſhews that the whole Maſs of Blood begins to diſſolve, and its bilious Principles to be highly exalted, and that all tends to a general Putrefaction.—In very putrid Fevers even the Milk, Sweat, &c. turn yellow, and ſtagnant Blood putrefying and diſſolving always puts on that Appearance.—*Hippocrates* indeed commends that Expectoration, in which the *yellow* is ſtrongly mixed with the *Spittle* * (or an intimate Mixture of yellow with white); but then he declares the *ſincere yellow Spit* (ξανθὸν ἄκρητον †) dangerous; and it is conſtantly found ſo, and is commonly attended with a violent Cough, and brought up with exceeding great Difficulty: Beſides, it is many Times ſucceeded by an *Hæmoptoë* from a

* Τὸ ξανθὸν ξυμμεμιγμένον ἰσχυρῶς τῷ πτυέλῳ. *Prognoſtic. Sect.* xiii. *Edit Linden.*

† *Ibid.*

Rupture

Rupture of the Veſſels; and this particularly when the Tongue appears very red, dry, ſmooth, and ſhining, with a Kind of *livid Bladders* * *at the Top*; which, by the Way, is a bad Symptom in all Kinds of Fevers. — It is carefully to be diſtinguiſhed in Practice, from which of the above Cauſes this thin bilious Expectoration proceeds; in order to which we ſhould diligently conſider the Pulſe, State of the Blood, and Temper of the Body: for very different Indications will ariſe from the different Cauſes.

I ſhall conclude theſe Remarks, on the Expectoration in pulmonic Fevers, with the following Obſervations of the great *Hippocrates*. —" Matter ſhould be ſpit off eaſily and early " in Peripneumonies and Pleuriſies; the Co- " lour of it ſhould be a yellow well mixed " with the Spittle, or a concocted yellow Mat- " ter that is tinged with ſome, but not too " much, Blood: — If this happens in the Be- " gining of the Diſeaſe, it is very advantage- " ous; but is not ſo much to be depended up- " on after the ſeventh Day. — It is exceeding " bad when there ſeems a great Quantity, and " Rattling, of Matter in the Throat, and yet " nothing is ſpit off. It is indeed, in all Caſes,

* Πομφόλυξ ὑποπέλιος *on the Tongue* Hippocrates *pronounces dangerous, and that it precedes Spitting of Blood.* Coac. Prænot. 6. Cap. de Pleuritide.

 " dange-

" dangerous when nothing is expectorated; " but that which is very viſcid, ſmall, and glo- " bular, or frothy, is unprofitable. The ſin- " cere yellow unmixed Spitting is bad; when " very bloody, or livid, it is dangerous; eſpe- " cially when this Appearance is very early " but that which is quite black is worſt of all: " It is an ill Sign alſo when it is very green " (ἰώδες). Whatever is ſpit up with great Dif- " ficulty, violent Cough, and no Relief to the " Pain and Oppreſſion, ſhews the Caſe to be " bad." See *Coac. Prænotion.* 13, 14, 15, 16, 17, 18. *Edit. Dureti, Cap. de Pleuritide*, compared with the *Prognoſtic of Hippocrates*; who ſays, a concocted Expectoration is like good *Pus* *, not thin and gleety, nor very yellow, very bloody, green, or livid: Indeed in any Abſceſs, or Ulcer, ſuch Colours are of very ill Omen, as denoting a high Degree of Acrimony.

But when a Reſolution, or Concoction, of the inflammatory Obſtructions of the Lungs happens, not only Part is thrown into the Cavities of the *Bronchia*, and ſo ſpit off; but alſo Part of it paſſes on into the correſponding Veins, and thence moves on with the reſt of the Blood, in the common Road of Circula-

* Πέπονα δὲ ἐςὶ τὰ μὲν Πτύελα, ὁκόταν γένηλαι ὅμοια τῷ Πύῳ. *De Vict. acut. Sect.* liii. *Edit. Lindeni.*

tion;

tion; till at length it is partly carried off by thick turbid Urine, in large Quantities, depositing much reddiſh, yellow-coloured Sediment, which in peripneumonic Diſorders always betokens Good, and partly alſo ſometimes by bilious Stools.—*Hippocrates* obſerves, that this thick ſubſiding reddiſh Urine in Pleuriſies is a ſecure Sign *, and that it carries off Peripneumonies when thick and plentiful †.—He deſcribes theſe concocted Urines as having ὑποςάσιας ὑπερύθρυς ὁκοῖον Ὄροβος ‖, that is, a Kind of a pale lateritious Sediment, as we call it.—But he juſtly obſerves, it is an exceeding ill Symptom, if, from being before thick, they grow thin about the fourth Day ‡;—and ſo it is indeed at any Time of the Diſeaſe, whilſt the Fever continues very conſiderable.

Nothing promotes theſe Urines and Stools more effectually than emollient laxative Clyſters, as they are a Kind of Fotus, and gentle Stimulant, to all the Parts of the lower Belly, and not only tend to diſcharge Urine and Stool, but Wind alſo, which ſometimes, by huffing up the Abdomen and Midriff, greatly ſtraiten the Reſpiration.—Beſides when groſs Excrements preſs on the Bottom of the *Aorta*,

* 586 *Coac. Prænot. Edit. Foëſii.* † *De Vict. acut. Sect.* liii. *Ed. Linden.* ‖ *Ibid.* ‡ *Coac. Prænot.* 53. *Cap. de Pleuritid.*—20. *Cap. de Urinis, Edit. Dureti.*

and

and Heads of the *Iliacs* ; too much Blood regurgitates to the ſuperior Parts, particularly the Breaſt, which encreaſes the Inflammation, Oppreſſion, *&c.*——*Hippocrates* therefore adviſes* cooling Clyſters in peripneumonic Fevers, eſpecially the firſt three Days † ; and *Aretæus* ſays, we ſhould inject an acrid Clyſter, in ſome Caſes, when we cannot well bleed ||. — The greateſt Care however ſhould be taken not to throw the Patient into a profuſe Diarrhœa, which will ſuppreſs the Expectoration without relieving the Diſeaſe ; and accordingly the great Oracle of Phyſic ‡ ſays, it is a bad Symptom where it happens to Pleuritics and Peripneumonics ; becauſe when there is a great Flux of Humors downwards, the ſuperior Parts grow dry, the Spitting ceaſes, and the Sick die ** : So that the Body ſhould not be too coſtive, which would encreaſe the Fever ; nor too looſe ††, leſt the Spitting and Strength of the Patient fail.— This is *Hippocratic* Phyſic, and I am ſure as rational, and well founded, as any of the modern. —But to proceed.

Sometimes the morbid Matter is critically tranſlated to the lower Parts, producing Phleg-

* *De Affect. Sect.* viii. *Edit. Linden.* † *De Vict. acut. Sect.* lii. *Edit. Linden.* || *De curatione Pulmonar.* ‡ *Hippocrat. Aphoriſm.* 16. *Sect.* i. ** *Lib.* III. *de Morb. Sect.* xvii. *Ed. Linden.* †† *Ibid.*

mons,

mons, Impoſtumes, eryſipelatoſe or œdematous Swellings, Ulcers, *&c*; particularly in Perſons formerly ſubject to ſwoln or ſore Legs, which are frequently noted to ſwell, or break up again, at the Cloſe of peripneumonic Diſorders, to the great Relief of the Breaſt. It is a well known Thing, that on drying up Ulcers in the Legs ſuddenly, the Lungs become forthwith affected; and that hydropic Tumors of theſe Parts, forced up by laced Stockings, Bandage, *&c.* immediately bring on aſthmatic Diſorders: Which ſufficiently ſhew the natural Conſent there is between the Breaſt and lower Parts, and that they are reciprocally affected by Diſorders.—Wherefore it ſeems rational, in ſevere pulmonic Diſorders, to attempt a Derivation of the Humors to the Legs by tepid Bathing, Bliſters, *&c*: And in Fact this hath been often practiſed with Succeſs.—How often do we find a *Metaſtaſis* of the Gout to the Lungs ſuddenly relieved by a *Revulſion* of it to the Feet by acrid Cataplaſms? Where there is great Danger, we ſhould neglect nothing.—When Bliſters, applied to the Legs in pulmonic Diſeaſes, ulcerate ſeverely, they commonly give great Relief; but they are often exceeding difficult to be healed up.—This was particularly remarkable in the Years 1740 — 41 — 46 — 47 *. — I then alſo obſerved, that if the

* *Vid. Obſ. noſtr. de Aere & Morb. epidem. Vol. II.*

Diſcharge,

Discharge, from the ulcerated Blisters, was suddenly suppressed; not only the Cough and Difficulty of Breathing returned, but sometimes a very great Purging, and sometimes very profuse Sweats forthwith came on: So that, in not a few Cases, the Patient was either worn out by the Pain and vast Discharge from the Blisters, or run down by a colliquative Diarrhœa, or Sweat; terrible *Aphthæ* frequently closing the fatal Scene.—Probably this arose from the great Acrimony of the Lymph and Serum, which having been jellied as it were by the preceding Fever, and now dissolving, was turned into a Kind of putrid *Ichor* (for when *Serum* is coagulated by Heat, its next State is a putrid *Liquamen*, or Dissolution): Nor did it only issue in profuse Stools and Sweats, but vented itself likewise by other Ways, as very foul, sharp, turbid Urine, pustular Eruptions, angry Boils, watery Bladders, very painful and fretting, on several Parts of the Body; as the Shoulders, Arms, Back, Breast, *&c.*—From some Observations of this Kind, it is likely the Ancients (who always carefully studied to follow and second Nature's Endeavours) applied *acrid Epithems*, as Salt, Mustard, *&c.* to the Breast, Back and Shoulders, in pulmonic Distempers. It is certain there is a great Consent between the Skin and the Lungs, as is evident in a repelled Itch, Small-pox,

Meaſles, &c. which immediately fall on the Breaſt.—Therefore bliſtering the above Parts, after a proper Quantity of Blood is drawn off, ſhould ſeem a rational Practice, eſpecially towards the Decline of peripneumonic Fevers.

Though Nature takes ſometimes theſe different Methods of relieving herſelf in peripneumonic Diſeaſes, yet her proper and common Effort is by Expectoration; and while that proceeds well, we may indeed favour her Attempt, but never interrupt it, which violent Purging, Sweating, and the like, will infallibly do:—So that thoſe other, juſt now mentioned, ſeem only the By-ways of Nature, and the morbific Matter is then only to be ſtrongly ſolicited through them, when the high Road is either ſtopped, or greatly embarraſſed.

CHAP. III.

Of the Peripneumonia notha.

WHAT I have ſaid above relates to the Nature and Management of inflammatory, or true Peripneumonies; but there is a Diſeaſe, noted chiefly by *Sydenham*, and the later Authors, under the Name of a *Peripneumonia notha*, in which, though the Load at Breaſt is very great, the Breathing very difficult, and the Cough very importunate, and ſometimes

ſometimes violent, (all ſufficiently denoting the Lungs to be conſiderably affected ;) yet the Fever and Heat are ſmall, many Times ſcarce perceptible, the Pulſe either quick, weak, and ſmall, or ſluggiſh and oppreſſed, never hard and tenſe.—So that as this Diſtemper hath very different, and almoſt quite contrary Symptoms to thoſe of a true Peripneumony in ſeveral Reſpects ; it is reaſonable to ſuppoſe it ariſes from very different Cauſes, and requires a very different Method of Cure.—— And in Fact we ſee, that baſtard Peripneumonies commonly ſeize the old and phlegmatic, the weak and lax, the fat and unwieldy, and are moſt riſe in wet, flabby, foggy Weather and Winter Seaſons ; whereas the true inflammatory Peripneumony generally attacks the robuſt, vigorous and active, and is moſt frequent in cold, dry Weather, during north-eaſt Winds, and high Stations of the Barometer. — Theſe two Diſeaſes then ſeem to differ almoſt as much as ardent and ſlow nervous Fevers ; or as much as an inflammatory Quinſy doth from one that is purely humoral, or ariſing merely from a ſerous Defluxion.—— And ſuch a ſerous acrid *Colluvies* may fall on the Lungs, be diffuſed into and amongſt the inmoſt Receſſes of their veſicular and cellular Cavities, and occaſion a great Oppreſſion on, and ſome Degree of Obſtruction in, the pulmonic and bronchial Arteries,

ries, and ſo greatly hinder a regular Circulation of the Blood through the Lungs. The frequent Chills and Fluſhes of Heat however, the Quickneſs and Irregularity of the Pulſe, Anxiety and Weight at Breaſt, Pain and Giddineſs of the Head, Foulneſs of the Tongue, *&c.* ſufficiently indicate a feveriſh Habit.

Upon the whole, this Diſeaſe ſeems to have its Origin from a *pituitous Lentor* of the Blood, and a *ropy* Diſpoſition of the *Lymph* and *Serum*; which being greatly redundant from ſuppreſſed Perſpiration, *&c.* and put in Motion by a febrile Heat, or ſudden Agitation of the Humors, is thrown on the Lungs faſter than it can paſs off (for viſcid Humors never paſs as freely, through the Extremities of the Arteries as when more thin and fluxile;) whence, being there more and more congeſted, it more and more obſtructs the pulmonic Veſſels, till at laſt a fatal Stagnation enſues, and Death the Conſequence. — We ſee this exemplified, in a particular Manner, by bringing on an artificial Peripneumony, if I may ſo call it; *viz.* Let a Girl labouring under a *leucophlegmatic Chloroſis* (where ſuch a heavy viſcous *Pituita*, as I have mentioned, predominates) be forced into great and long continued Exerciſe; her Lungs at length become ſo ſtuffed and loaded, that ſhe falls into a vaſt Difficulty of Breathing, and even an entire Suffocation — This hath really

happened in ſeveral Inſtances, were the Exerciſe hath been puſhed too far. — I might have taken Notice alſo, that ſuch a pituitous Lentor of the Blood and Humors doth not give off a ſufficient Quantity of animal Spirits, to actuate the Veſſels with Force enough to carry on a due Circulation.

As there are many intermediate States, between the violent inflammatory Peripneumony, and this laſt mentioned, no diſtinct ſettled Method of Cure can be laid down; becauſe the peripneumonic Malady, to be immediately treated of, may ſometimes incline much more to the inflammatory State, and ſometimes much leſs.

For a Diſeaſe is a Diſorder in the animal Œconomy, diſtinguiſhed indeed by ſuch and ſuch particular Symptoms, and called by ſuch or ſuch a Name; but each particular Diſeaſe, in every individual Patient, is to be conſidered by the attending Phyſician, not according to the *Nomenclature*, but according to the Nature, Cauſes and Symptoms of the particular Diſeaſe in that particular Perſon; and Meaſures ſhould be taken accordingly. — Thus if I meet with a great Load and Uneaſineſs at Breaſt, a difficult hot Breathing, Cough, &c. with a full, ſtrong, quick Pulſe, or a very tenſe and hard one, in a ſtrong and vigorous Perſon; I have a ſufficient Warranty to be much more free and fre-

quent

quent in Bleeding, than where the Oppreſſion, Cough, *&c.* are not attended with ſuch a rapid and ſtrong, or quick and tenſe Pulſe; eſpecially if I previouſly knew the labouring Perſon to be of a weak, lax, or phlegmatic Conſtitution.

So that when the Pulſe is weak and low, the Heat little, or not conſiderably above the natural, the Urine pale and crude, and ſo on; I muſt proceed with great Caution in bleeding a pulmonic Patient, though the Load and Oppreſſion at Breaſt may be very urgent.—And in Event when Blood is drawn from a Perſon under a baſtard Peripneumony, it either appears looſe, thin and florid, or more commonly of a darkiſh livid Hue, and not coated over with a thick viſcid *Buff,* as in common Inflammations of the Lungs.—And it is obſervable that the Patient ſoon ſinks, and grows conſiderably weaker after ſuch an Evacuation, though, for the preſent, ſeemingly relieved, as to the Anxiety and Load on the *Præcordia*: For as Bleeding, in this Caſe eſpecially, weakens the Powers of Nature, and the Action of the Solids on the Fluids; the morbific Lentor, the continent Cauſe of the Diſeaſe, is thereby encreaſed.—Of this *Sydenham* himſelf was ſo ſenſible, that he particularly cautions againſt repeated Bleedings in a *Peripneumonia notha*, eſpecially in Perſons of a groſs Habit of Body,

 and

and that had paſſed the Flower of their Age * ; though in a true Peripneumony, he imagined he could as effectually *vent* the Matter of the Diſeaſe through the *Orifice of a Vein*, as by the *Trachea itſelf* †.—It is moreover certain, that common *catarrhal Fevers*, in which a ſerous *Colluvies* abounds, will not bear very large Bleeding, much leſs a *Peripneumonia notha*, where a ſlimy *Pituita* is redundant.

But as Bleeding, on the one Hand, is to be uſed with great Caution in this Diſorder, ſo on the other are very heating and ſtimulating Medicines, eſpecially at the Begining of the Diſtemper ; otherwiſe not only the Oppreſſion on the Breaſt is greatly encreaſed, but a comatoſe Diſpoſition alſo is readily brought on. For the morbid Lentor may be forced in too great Quantities on the Veſſels of the Brain, and accumulated there, as well as in the Lungs ; and evidently is ſo from the Giddineſs, Pain and Heavineſs of the Head, which commonly attend the baſtard Peripneumony : For as the free Deſcent of the Humors from the Head is conſiderably hindered by the too great Repletion of, and almoſt Stagnation in, the Lungs ; the right Ventricle of the Heart hath not ſufficient Room to play off its Contents of Blood, and receive others freely.

* *Cap. de Peripneumonia notha.* † *Cap. de Pleuritide.*

We

We ſhould proceed therefore with great Circumſpection in treating this Kind of Diſeaſes, which are always dangerous, and frequently fatal; and the more ſo, as, at the Begining, the Mildneſs of the Symptoms is too apt to miſlead both the Patient, and leſs cautious, or unexperienced Phyſician, into too great a Neglect, or wrong Management. I have ſeen it more than once, or twice, taken for a mere Fit of *Hypochondriaciſm*, where a very few Hours have ſhewn the fatal Miſtake. — But where a perpetual laborious Wheezing, great Anxiety and conſtant Oppreſſion on the *Præcordia*, comatoſe Symptoms, cold Extremities, and dark lead-coloured Nails and Viſage are come on; the Phyſician muſt be more ſtupid than the Patient, not to ſee the immediate Danger.

I think in general more or leſs Blood ſhould be drawn in the Begining; but, as *Sydenham* well obſerves *, during the Operation let the Patient be kept in a recumbent Poſture, by which means Faintneſs, otherwiſe very apt to come on, will be avoided. — For this not only leſſens the too great Load and Diſtenſion of the Veſſels, but alſo makes Room for ſuch Drinks and Medicines as may be neceſſary in the Proceſs of the Cure: But as to the Repetition of Bleeding we ſhould be very cautious, and well conſider the State of the Blood, the

* *De Peripneumonia notha.*

Strength of the Pulſe and Patient, before we adviſe it. It is undoubtedly ſometimes neceſſary. — We are frequently obliged to bleed repeatedly in aſthmatic Paroxyſms, where there is no Manner of Fever.—Mild, attenuant, ſaponaceous Medicines, thin diluting detergent Drinks, and the Application of Bliſters ſhould ſucceed Bleeding: An Infuſion of inciding, deterging, pectoral Herbs, as Ground-ivy, Hyſſop, Penny-royal, Liquorice, or a thin Muſtard-whey ſweetened with Honey, and ſharpened with Lemon, are proper for common Drink. ——Some Dilution is neceſſary in this Diſeaſe, though nothing ſo much as in a true Peripneumony, nor indeed doth Nature call for it by any great Thirſt; yet as the Lentor, predominant in this Diſorder, is moſt readily diſſolved by warm watery Liquors, ſome are undoubtedly proper.

As a baſtard Peripneumony is commonly attended with frequent Urgings to vomit, I think it pretty clearly hints to us the Expediency of relieving Nature that Way; and accordingly I have often experienced the good Effects of gentle Vomits in it, after ſome Blood had been drawn off.———A Spoonful or two of *Oxymel ſcilliticum*, or *Vinum Ipecacoanhæ*, with a few Draughts of Muſtard-whey, or the like, are ſufficient: A large Quantity of any Kind of Liquor ſhould not be drank.— This not only

pumps

pumps up much heavy *Pituita* from the Stomach and Lungs, but alſo, by the Concuſſion it gives the whole vaſcular Syſtem, promotes a general Attenuation and Fluxility of the Humors; and a Stool, or Sweat commonly ſucceeds.

The mighty Cures, in Pleuriſies, *&c.* boaſted of by *Rulandus* *, and others with the *antimonial Aqua benedicta*, were greatly owing to its emetic Quality; and the famous *Poudre des Chartreux* †, or *Kermes mineral*, gained ſuch high Repute in Pleuriſies, Peripneumonies and Defluxions on the Breaſt, in a great Meaſure at leaſt, from the gentle Efforts it creates to vomit.—Undoubtedly it hath had good Effects in catarrhal Fevers, and pituitous Peripneumonies; but to give either the one or the other in inflammatory Peripneumonies, or Pleuriſies, without previous Bleeding, is utterly wrong, dangerous and empirical.

Let me here take Notice of what I many Years ago mentioned, that the beſt of all the antimonial Preparations, I have ever tried, (and I have tried many) is in my Opinion the *common Vinum benedictum*, or Infuſion of Glaſs of Antimony in Wine ‖.——It it ſurpriſing we ſhould ſeek for any other, as this poſſeſſes the whole

* *Mart. Rulandi Curat. empiric. paſſim.*

† See *Memoires de l'Academie royale des Sciences, ann.* 1720.

‖ *Vid. Obſ. noſtr. de Aere, &c. Vol. I. p.* 140. there called *Eſſentia Antimonii.*

 Virtues

Virtues of Antimony. You may make it a rough Emetic in a large Dose, you may give it in a few Drops, so as merely to excite Perspiration: — With it you may puke, you may purge, you may sweat; — from ten to fifty, or sixty Drops it is an Attenuant, Alterative, Diaphoretic and Diuretic; a few more gently purge; and every one knows a large Dose strongly vomits: What will any other Preparation of Antimony do more? Here it is in *solutis Principiis*, as the Chemists speak, in mere *Effluvia* as it were, in the most highly attenuated Manner, and most intimately and adequately mixed with the *Menstruum*; capable of passing and affecting the most intricate *Mæanders* of the very minutest Vessels, and yet powerful enough to stimulate the great alimentary Canal. — The common solid Preparations of Antimony are either a mere *inert Calx*, or very uncertain in their Operations, sometimes very rough, sometimes lying a long Time in the Stomach and Bowels, and exciting very untoward Symptoms; whereas this quickly acts, and as quickly passes off.—It certainly is an admirable Attenuant and Deobstruent, without heating a tenth Part so much as volatile alkalious Salts, and in most Cases much more safe and efficacious, particularly in the Disease now treated of.—In a Word it much more deserves the Name of a *Catholicon* than any of the

boasted *Nostrums*, that are quacked upon the World by the great *W—d*, or the meanest Itinerant.—In good Hands it will certainly do great Things.—The timid, low, insipid Practice of some is almost as dangerous, as the bold unwarranted Empiricism of others; Time and Opportunity, never to be regained, are often lost by the former; whilst the latter, by a *bold Push*, sends you off the Stage in a Moment.

Blisters should never be neglected in a *Peripneumonia notha*, as not only serviceable from their attenuating and stimulating Quality, but also as they drain off Part of the morbid Colluvies: A large one to the Neck should always be set on at the Begining, and Epispastics to the Legs and Thighs are often found to relieve the Head and Breast, when other Methods fail.—But as it frequently happens, in this Disorder, that the Limbs grow torpid and coldish, a very bad Symptom! they should be well rubbed before the Blisters are laid on, and then well wrapped up in Flannel (which by the Way is frequently also necessary in low nervous Fevers); for this very much promotes the Rising of the Blisters, and the consequent Discharge.

When comatose Symptoms and a very difficult Respiration remain after Bleeding, you may draw off more Blood by cupping and scarifying the Neck and Shoulders, when you cannot venture to open a Vein again; and this

hath frequently a ſurpriſing good Effect: In a very threatening Caſe you ſhould bliſter on the Scarifications.

Frequent Stools are certainly uſeful in this Diſorder. *Sydenham* adviſes Purging every other Day * after bleeding once and again, but I think this is over-doing it in both Reſpects: For though Bleeding, and Purging too, may be neceſſary at the Begining; yet it is very ſeldom proper to repeat the former, and the latter muſt be managed with ſome Caution, eſpecially when repeated. For the Patient is apt to fall into Faintneſs, cold Sweats, &c. unleſs properly ſupported during the Operation; which indeed may be eaſily done; but ſurely in moſt ſuch Caſes it requires more than Small-beer, and Water-gruel, to do it. —— There is one Thing to be obſerved, as to both theſe Evacuations, and that is, that if the Sick ſpit largely a concocted Matter, which is ſometimes the Caſe even in this Peripneumony, neither one nor the other is proper; and laxative Clyſters or mild *Eccoprotics* only ſhould be given, at leaſt during the copious Expectoration; and thin Muſtard-whey, *Hydromel*, or pectoral Decoction, with a ſmall Quantity of ſoft white Wine in them, ſhould be given frequently to promote it.—*Hippocrates*, in ſeveral

* *Cap. de Peripneum. notha.*

Places,

Places, advises *Hydromel*, and sweet and watery Wine * in Pleurisies and Peripneumonies, to promote Spitting. Diuretics in this Case, if we are happy enough to succeed with them, are of very great Service, especially provided we can promote a *foul hypostatical Urine* : But the Truth is, in this Disorder, very little is to be depended on Urine, either as to *Crisis*, or *Prognostic* ; only a thin, pale, or limpid Urine is universally bad in pulmonic Disorders.

Nitre, *Sperma ceti*, Cinnabar, Saffron, *Pulv. contrayerv.* Camphire, *Sp. vol. oleos. Lac. ammoniac.* and *Oxymel scilliticum*, Decoctions of Figs, Liquorice and Elecampane, are the most adapted Parts of the *Materia medica* in this Distemper : The *saline Draughts*, made with *Salt or Spirit of Harts-horn and Juice of Lemon, or distilled Vinegar*, are exceeding useful ; as they promote Expectoration greatly, relieve the Difficulty of breathing, and commonly operate by Sweat, or Urine. — But Opiates and oily mucilaginous Medicines are hurtful, and so are the highly stimulant and volatile if given too early, though they sometimes have a good Effect towards the End. —— But the different Degrees of Heat, Fever, and Difficulty of breathing, the State of the Pulse, Blood, and other concomitant Symptoms, can only deter-

* Οἶνος γλυκὺς καὶ ὑδαρὴς, *Lib. III. de Morb. Sect.* xxiv. *Ed. Lind.*

mine

mine in what Manner, and to what Degree, very attenuating and warm Medicines, or thoſe of a cooler Kind, may be made Uſe of.

CHAP. IV.

Of Pleurisies.

A Violent Pain on either Side of the Breaſt, attended with an acute Fever, is commonly called a *Pleuriſy*; and this whether it ariſes from an Inflammation of the *intercoſtal Muſcles*, the *Perioſteum* of the Ribs, or the *Pleura* itſelf; which laſt indeed, in Strictneſs of ſpeaking, is only the true Pleuriſy, the former being Species of an inflammatory Rheumatiſm, and are called *baſtard*, or *ſpurious Pleuriſies*.—However as they greatly affect the Reſpiration, when violent, they are always attended with much more ill Conſequence than rheumatic Pains in other Parts of the Body, and demand a particular Regard, and a ſpeedy Removal.

For as the Violence of the Pain hinders a due Expanſion of the *Thorax*, the Reſpiration is immediately affected; hence, the Lungs not being ſufficiently inflated, the Blood cannot paſs freely from the pulmonic Arteries to the pulmonic Veins, and ſo into the left Ventricle of the Heart: Whence a Congeſtion, and ſome

Degree

Degree of Stagnation of the Blood in the Lungs will arise.— Now as the right Ventricle of the Heart is continually throwing more Blood into the pulmonic Artery, its Branches become more and more distended, till at length they are rendered so very turgid, as to press on and obstruct the Branches also of the bronchial Arteries; and thus an Inflammation of the Lungs, or a compleat Peripneumony, is often the Consequence of a true, or bastard Pleurisy, especially when the Blood is very viscid.——Indeed whatever interrupts a free Inspiration and Expiration is apt to produce this.— Thus oftentimes a Quinsy brings on a Peripneumony, the free Passage of the Air, through the *Glottis* into the Lungs, being obstructed.—*Frederick Hoffman* * takes Notice that even flatulent and spasmodic Colics, continuing any Time, are often succeeded by Pleurisies and Peripneumonies; the Pains, Spasms and Flatulence impeding the free Action of the Diaphragm; — and partly also, as he says, by hindering a due Passage of the Blood through the *Viscera of the Abdomen*, by which too much is thrown on the Lungs, Pleura, *&c.*— Very strait Lacing, and Straining for a fine Shape, hath made many a fine Girl spit Blood, and ruined the Lungs, by preventing a full and easy Inspiration.— A fractured Rib, or even a simple Contusion of the

* *Consult. medicinal. Tom. I. Francof.* 1734. 4to, *p.* 450.

Breast,

Breast, very often brings on an *Hæmoptoë*, Cough, &c.—In Truth when any of the Muscles, that are but even subservient to Respiration, are greatly affected, peripneumonic Symptoms may come on. *Monsieur Mery* * mentions the Case of a young Man, wounded in the Tendon of the *Pectoralis major*, who was forthwith seized with a very great Difficulty of breathing, and an acute Fever. — In a word all Kinds of Pains in the Breast, and Pleurisies especially, are in a peculiar Manner dangerous ; as they are very apt to bring on more or less of a Peripneumony, by causing a great Interruption to regular and easy Respiration.—And this is the Reason, why we meet with many more pleuritic Fevers, accompanied with peripneumonic Symptoms, than true and exquisite Pleurisies : Where a severe Pain of the Breast is attended with an acute Fever, Load at Breast, Cough, Difficulty of breathing, Expectoration, or Spiting of Blood ; this is always the Case, and is very properly denominated a *Pleuro-peripneumony*.—Indeed it sometimes happens, that, upon the coming on of the Peripneumony, the Pain of the Side ceases ; which may happen, when the Infarction of the Lungs is so great, that little Blood passes from the right Ventricle of the Heart to the left, and the *Aorta* is not half

* *Memoires de l'Academie royale des Sciences*, 1713.

supplied

supplied with Blood: So that the Powers of Nature sinking for Want of it, all tends to an universal Stagnation, and the Patients become as it were insensible, or, as *Aretæus* * says, complain of nothing, though their Pulse intermits, and their Extremities are cold. I have seen several such Instances. — About four Years since one *Mr. Cam*, a Sailor, was seized with a compleat *Paraplegia* about the 9th Day of a *Pleuro-peripneumony*, and about twenty-four Hours before his Death. — It is a fatal Symptom therefore when the pleuritic Pain suddenly ceases, and yet the Difficulty of breathing and Load at Breast still continue, or encrease. — And the following *Aphorism* is most certainly true: "*A Peripneumony supervening a Pleurisy is dangerous* †."

But the Nature and Consequences of Pleurisies will more fully appear from the following Considerations.

1st. The inflamed *Pleura* is apt to cleave to the external Membrane of the Lungs, and propagate the Inflammation to them; and this will more easily happen, when either by Nature, or Disease, a previous Cohesion had been partly formed: Hence those, that have once laboured under a Pleuro-peripneumony, are often afterwards subject to the like Disorder;

* *De Pulmonaria.* † *Hipp. Aphorism.* 11. *Sect.* vii.

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the *Callosity*, as I may call it, formed by the *Concretion*, ſtraitening the Blood-veſſels of the *Pleura*, and making them more liable to be obſtructed by a ſizy Blood for the future.— Not to mention the more or leſs Impediment, which the Adheſion of the Lungs to the Pleura gives to full and free Reſpiration.

2*dly*. As the external Membrane of the Lungs is only a Continuation of the *Pleura* itſelf, the Inflammation may be diffuſed from one Part of the *Pleura* to another, and even to that which immediately inveſts the Lungs; for it may ſpread a conſiderable Space, juſt as we often ſee a ſmall inflammatory Speck on the Eye ſoon ſpread into a general Inflammation of the whole Globe, Eye-lids, *&c.* — Beſides the Inflammation may primarily fall on this Membrane of the Lungs, and then Pains, altogether like the pleuritic, will ariſe, though the internal Membrane of the *Thorax* (or Pleura) may not be affected.—I am quite of the experienced *Hoffman*'s † Opinion, that this is often the Caſe.

3*dly*. The very *Mediaſtinum* is but a *Duplicature* of the *Pleura*, and an Inflammation may attack any Part of it, or be propagated to it; in which Caſe very acute Pains are felt under the *Sternum*, or between the Shoulder-blades;

† *Cap. de Febribus pneumonicis, Tom. IV. Parte* i.

This

This we sometimes meet with, and it is generally attended with great Danger.—Both *Hippocrates* * and *Aretæus* † take Notice of a *dorsal Pleurisy*, in which the Pain shoots from the Spine to the Breast-bone, attended with an *Orthopnœa*, Cough, and a very difficult and small Expectoration. — This seems to be the Case mentioned. — Sometimes the Pain is forward and directly under the *Sternum*, where the *Mediastinum* is attached to it, and in Consequence of it Apostems have been found in that Part. —When the Pain seems to lie very deep in the Chest, with a great Load and Anxiety, Palpitation of the Heart, and a constant Inclination as it were to raise a Cough, the *Pericardium* (the external Membrane of which is also from the *Pleura*) is commonly inflamed.—Where the Pain is spread all over the Breast, with a great Oppression, and perpetual darting pricking Pains here and there; not only the *Mediastinum*, but the external Membrane of both Lobes of the Lungs seems to be inflamed: The great Difficulty of Breath, Load, and Anxiety, perpetual Cough, and constant Desire of sitting up erect, shew this to be the Case; and a very dangerous one it is, as well as an Inflammation of the *Pericardium*.—Inflammations of the *Mediastinum*, *Pericardium*, and Membranes of the

* *Lib. III. de Morbis, Sect.* xxi. *Edit. Lindeni.* † *Cap. de Pleuritide.*

Lungs,

Lungs, seem to be what the Ancients called an *Erysipelas of the Lungs*; *Hippocrates* describes it as an acute Fever, with great Pain in the fore Parts of the Breast and in the Back, with much Load, seeming Fulness, and a dry Cough *.

4thly. The upper Membrane of the *Diaphragm* is likewise from the *Pleura*, and may be either primarily inflamed, or secondarily from the Inflammation of the Pleura: And this certainly happens more commonly than is imagined. — This is called a *Paraphrenitis*, and is attended with a very acute Fever, and a very violent Pain extended from the lower Ribs to the lowest *Vertebræ* of the Back, a short, convulsive, *singultose* Kind of breathing, a vast Anxiety and Uneasiness, dry Cough, Hiccup and Delirium; an excessive Pain is particularly felt on every Inspiration, which darts itself from the Pit of the Stomach to the very Loins; the *Hypochondrium* of the Side affected is drawn inwards, and upwards † under the Ribs, and the Abdomen is scarce perceptibly moved in Respiration, but remains fixed and convulsed as it were by the Violence of the Pain, in attempting an Inspiration.

Any Part therefore of this widely expanded Membrane being inflamed, a Kind of Pleuri-

* *Lib. I. de Morbis, Sect.* xiii. *Edit. Linden.*

† *Si septum transversum percussum est, præcordia sursum contrahuntur. Celsus, Lib. V. Cap.* xxvi.

sy

ſy is generated, in which the Lungs themſelves by *Continuity*, *Contiguity*, *Coheſion*, or *Sympathy*, will ſoon become greatly affected.— Nay, the Lungs may, and often are found to adhere to the *Mediaſtinum* and *Diaphragm*, as well as to the *Pleura* commonly ſo called. — But if the Lungs ſhould not adhere to any Part of the *Pleura*, peripneumonic Symptoms may ſupervene an Inflammation of it; becauſe the Let and Hinderance it gives to a regular Reſpiration will greatly interrupt a due Circulation of the Blood through the Lungs.—The ſame may be ſaid with Reſpect to any conſiderable Inflammation of the intercoſtal Muſcles, or *Periosteum* of the Ribs.—Indeed in theſe Caſes the peripneumonic Symptoms may not preſently come on, nor commonly do they till after two, three, or four Days; but as the inflammatory Pain hinders a due Expanſion of the *Thorax*, and a ſufficient *Inflation of the Lungs*, they at length alſo may become greatly affected.

Theſe then being too often the Conſequences of pleuritic Fevers, we ſhould endeavour to take off the Inflammation in a true, or baſtard Pleuriſy, as ſoon as poſſible, by large and repeated Bleeding, cooling nitrous Medicines and Drinks, Fomentations, Opiates, *&c.* — In a Word, we ſhould treat the Caſe as a *mere Inflammation of the Membranes*, *Muſcles*, *or Perioſteum*; but when a Load at Breaſt, Cough,

Expectoration, &c. come on, we must have a Regard to these also, as well as to the Pain of the Side, &c.

And it is that the Nature, Situation, and Difference of the Diseases of the Breast, and Lungs, may be more easily known and distinguished in Practice, that I have been so particular in describing them: For it would be no small Absurdity to give Expectorants, *oleaginous Linctus*, and Pectorals, in a simple Inflammation of the Muscles of the Breast, or Pleura; even although a slight symptomatic Cough, and some Difficulty of breathing should attend, especially at the very Access of the Fever; whereas well timed Bleeding, and a proper Regimen would have soon carried off the Disorder.— On the other Hand, it would be altogether as wrong to rest solely on Bleeding and Fomentations, where the Lungs also were primarily, or even secondarily, affected in any considerable Degree.

The Distinction of Pleurisies into *true* and *bastard* hath a real Foundation in Nature, and is of some Import in Practice; for when the intercostal Muscles only are inflamed, much more is to be expected from topical Applications, as Fotus, Cataplasms, Blisters, Cupping, and the like, than when the Pain of the Side is from an Inflammation of the *Pleura*, or external Membrane of the Lungs. — The Soreness

to the Touch, the Pain on lying on the affected Side, and chiefly on a full Inspiration, the Tumor and Redness of the Part which sometimes appear, distinguish this from the internal Pleurisy.

Besides there are some Pains of the Side, and those too pretty severe, which arise from a sharp acrid Defluxion on the Muscles of the Breast, and Periosteum of the Ribs; and which much sooner give Way to topical Applications, edulcorant Medicines, and proper Purges, than to Bleeding, which in such Cases is no further necessary, than to take off a *Plethora*, if it subsists. — Indeed where an acrimonious Humor is the Cause, you may bleed and bleed on to very little Purpose, but that of weakening your Patient.—Will Bleeding cure obstinate scorbutic or venereal Pains? It may as well remove the Pain from a rotten Tooth, or a Thorn in the Flesh.

The Ancients well distinguished between wandering rheumatic, or flatulent Pains about the Breast and Side, and the truly pleuritic. *Hippocrates* justly styles them, Ἀλγήματα ἰσχνῶς ἑστηκότα ἄσημα *, and forbids Bleeding in them:

* Shifting, erratic, slight Pains, *without the true pleuritic Symptoms*; *Coac. Prænot.* 491. *Edit. Foësii.*—Compare this with the Caution about Bleeding at the End of *Duretus*'s second Book on the *Coac. Prænot.*

These they attempted to cure by Fomentations, Purging, *&c.* not by Bleeding; whereas the fixed, *systrophic* Inflammation of the Breast, as the *Commentators call it*, always required Bleeding.—And we eventually find erratic, scorbutic, rheumatic Pains much better carried off by Purging, Fotus, Diaphoretics and Edulcorants, than by Bleeding.—Some of them indeed give Way to nothing but Mercurials, Antimonials, anodyne Plasters, Cupping, or Blistering; and some wear off only by Time, Patience and Exercise. When the Pains are at the Bottom of the Thorax, in the *Hypochondria*, or below the Midriff, attended with *Borborygmi*, and a tumid Abdomen; Clystering, or Purging, is unquestionably proper: And yet these Pains are sometimes very acute, and, from the Inflation of the Intestines by Wind, oftentimes accompanied with no small Difficulty of breathing; but as *Aretæus* observes, they are very improperly called *pleuritic.*—I have many Times seen such Complaints vanish immediately on the Use of a Clyster, or a few Stools, to the Surprise of those, who were ignorant of the Cause.—Bleeding in this Case always encreases the Flatulence and Pain. — This is entirely consonant to the *Hippocratic* Doctrine, and the Truth of Things; for the great Dictator of Physic says expresly, when the Pain is below the *Septum transversum*, and the Abdomen is tumid, you should purge gently

gently with black Hellebore, *Peplium*, *Silphium*, to which add Cummin, Anise, *&c.* that it may carry off the Wind as well as the Stool *.

But in all these Cases the Pulse, Degree of Fever, the Tongue, Situation of the Pain, and Manner of Breathing, pretty clearly discover to the judicious Practitioner what is the Matter, and what is to be done. — When the Pain of the Thorax is violent, the Pulse hard, tense, and quick, the Fever high; the Pains may be pronounced pleuritic, especially when a *Rigor* preceded.—True pleuritic Disorders almost always begin with a *Rigor*, and the Pulse is very hard and tense, like the Vibrations of a *Cord*: The Pains are very sharp, pricking, and fixed, not tensive and shifting, as the flatulent; nor uncertain, wide and wandering, as the rheumatic.—The Hardness of the Pulse is one of the most *pathognomonic* Signs of an Inflammation of membranous Parts; when therefore Pains lie under the *Sternum*, or shoot from the Spine to the Breast-bone, you may guess the *Mediastinum* is inflamed, by the Tension of the Pulse.—The Lungs, as *Aretæus* † says, being insensible (at least much less sensible) a *Vomica* is often formed in the Lungs without much attendant Pain. The *Membranes* of any *Organ* are vastly more sensile than what is called its *Parenchyma*, the

* *De Victu acutor. Sect.* xiii. *Edit. Lindeni.*

† *Cap. de Pulmonar.*

Ureters than the Kidnies, the Membranes of the Brain than the Brain.—The Hardneſs of the Pulſe then, and Violence of the Pain, may be the chief *Diagnoſtics* in Diſorders of the Thorax, and greatly determine as to Bleeding, *&c.* — I think the Situation of the Pain is not ſo much to be regarded, as ſome make it; for as any Part of the Pleura, intercoſtal Muſcles, or Perioſteum of the Ribs may be inflamed; the Pain may be felt in any Part of the Thorax: And I have known as ſevere Pains near the baſtard Ribs, as in any other Part. *Hippocrates* and his Commentators determine Bleeding to be then peculiarly proper, when the Pain ſhoots up to the Clavicle and Shoulder; but in my Opinion, when the Pain is very ſevere in any other Part, it is equally neceſſary:—The Pain is very low in a *Paraphrenitis*, and yet none more loudly demands it. When the *Pectoralis major* and *Serratus anticus minor* are inflamed, the Pain cannot but dart up to the Shoulder, as their *Tendons* are inſerted near its *Articulation*: This is often the Caſe in a baſtard Pleuriſy, and is moſt effectually relieved by Bleeding and Fomentations; but theſe would be as neceſſary, if the intercoſtal Muſcles, or Perioſteum of any of the Ribs, were inflamed.

Though ſome Pains of the Side may be greatly different from the pleuritic, and require much leſs Bleeding; they ſhould never be neglected,

lected, especially if they considerably obstruct the Respiration: For then they are always followed with very ill Consequences; a strong Instance of which you have in the following History.

About *Christmas* 1728. Mr. *T—ll*, a worthy sober Gentleman, about thirty, of a thin Habit of Body, but a lively active Disposition, was seized with a Pain in his *right Side*, and grew a little feverish; the Pain was so slight that he never confined himself. He was bled however, and took some few Things from his Surgeon. —But finding the Pain of his Side daily encreasing, about three Weeks, or a Month, after the first Attack, he consulted me. —— I found him under hectical Heats, a short Cough and Difficulty of breathing, which last he said proceeded merely from the Pain of his Side: He expectorated little, and that with Difficulty; and it was now sometimes slightly tinged with Blood.—I ordered him to be bled, to take an oily expectorating Mixture, *Lac ammoniac. Oxymel scillitic.* the saline Draughts and pectoral Decoction, and kept him to a cool diluting Regimen. By these Means in a very few Days he began to spit off a vast Quantity of purulent, bloody, and fœtid Matter, which proceeded from a *Vomica* in the *left Lobe* of the Lungs; for he felt a Soreness in, and said that the Matter came from, a *Place* to the *left* of the *Ster-*

num, towards the Bottom of the *Thorax*.— At length very little was expectorated, and that neither fœtid, nor bloody; and his Cough daily abated, nor did any great Load at his Breast remain: A pectoral balsamic Decoction of the *Bark* soon also took off his remaining Heats and Sweats; so that I flattered myself with Hopes of his speedy Recovery. — But, notwithstanding all these promising Symptoms, the Pain of his *right Side* still continued, exactly in the same Place where it first began; nay it soon became exceeding violent, so that I thought it necessary to bleed him again, and even repeat it; I ordered also emollient Fomentations, and an anodyne Plaster of *Opium*, *Camphire* and *Emplastr. è Cymino*; and, these not availing, cupping on the Part with Scarifications.—All was in vain, for the Pain daily encreased, and nothing gave the least Ease, or Sleep, but repeated Opiates.— At last the Part began to swell considerably, and manifest Signs of an *Abscess* came on, which I endeavoured by all proper Methods to promote.— In a few Days the Surgeon opened it, from whence issued an immense Quantity of purulent Matter, so much, that we imagined it came partly from the *Cavity of the Thorax*. — Upon further Examination we found two of the Ribs foul and black, and two Penetrations, one between the fifth and sixth of the true Ribs (which

were *carious)* and the other between the fourth and fifth, reckoning downwards. He, being exceeding weak, hectical and emaciated, died *March* 29th, 1729.

On examining the Body some of the intercostal Muscles, Part of the *Serratus anticus major*, and the supreme Portion of the *Obliquus descendens* appeared *black* and *sphacelated*, and the Impostume had extended itself almost home to the *Spine* of the *Back:* The lower Part of the *Pleura* was quite black, and the *Diaphragm also on that Side, livid.* The *upper Perforation* entered the *right Lobe* of the Lungs, which, for a considerable Way round it, was purulent. —In the left Lobe we observed a Kind of *Callosity*, of a pretty large Extent, where probably the *Vomica* lay; and near the *Vertebræ* a large *Tumor*, bigger than a Turkey-egg, in a State of Suppuration: There were several other small Tubercles, some very hard and almost stony; some suppurated and full of *Pus.*—Both Lobes of the Lungs were greatly diseased, and, in some Places, quite livid.—They adhered firmly to the *Pleura* in a vast many Places, some of the Adhesions of a pretty large Extent, some by a Sort of fibrous Ligaments.—In the *right Cavity of the Thorax* was about half a Pint of very fœtid dark-coloured Matter.

Probably some Obstructions were formed in this Gentleman's Lungs antecedent to the Pain of

of his Side, as he had been ſometimes ſubject to a ſhort dry Cough; but I am perſuaded the ſharp Humor, that fell on the Ribs and intercoſtal Muſcles, by hindering a free Reſpiration, greatly contributed towards the Obſtructions and Suppurations in his Lungs; and by preventing alſo a due Expanſion of the *Thorax*, it might encreaſe, at leaſt, the Adheſion of the Lungs to the Pleura.

I ſhall conclude this Chapter with a Word or two on the Method of treating inflammatory Pleuriſies: — In which, without all Doubt, drawing off more or leſs Blood is indiſpenſably neceſſary, previous to any other Attempt of Relief: The Strength of the Patient, Pulſe and Fever, the Violence of the Pain and Difficulty of breathing muſt determine the Quantity.— But let me add, the Quality of the Blood ſhould alſo be nicely inſpected; for a denſe ſizy Blood not only indicates an abundant Quantity of the red Globules, but likewiſe its inflammatory Diſpoſition, and that the Patient, if Need be, can well bear large and repeated Bleeding.

It ſhould be duly conſidered, that if an Inflammation of the *Pleura*, *&c.* is not timely abated by Bleeding, or reſolved by proper diluting, antiphlogiſtic, emollient Drinks and Medicines; it cannot but end in an Impoſtumation, or Gangrene. Beſides theſe Pleuriſies

rarely fail of bringing on peripneumonic Symptoms, if of any Continuance; and therefore we cannot be too early and earnest in endeavouring to take off the Inflammation: For the Pain thence arising greatly embarrasses the Respiration, and of Course the due Circulation of the Blood through the Lungs; which being now also in a very viscid State (the immediate Occasion of the original pleuritic Inflammation) is much more apt to stick in the ultimate Branches of the pulmonic, or bronchial Arteries, than if it was more thin and fluxile. This is the Reason, why Pains of the Side, from Inflammation, bring on Peripneumonies much more frequently, than when from a mere acrimonious Defluxion, or the like.—Here therefore *Celsus*'s Maxim is certainly right, *Remedium . . . est magni & recentis doloris, sanguis missus*; and what he had is true likewise, *at si . . . vetustior casus est, . . . serum id auxilium est* *.

An emollient cooling Clyster should immediately succeed Bleeding, especially if the Body is costive, which not only empties the Intestines of gross Excrements and *Flatus*, but also derives a greater Quantity of Blood through the descending *Aorta* and *Iliacs*, and in both Respects eases the superior Parts. † *Hippocrates* constantly advises to clyster in the Begining of Pleurisies,

* *Lib. IV. Cap.* vi. † *De Victu acutor. Sect.* lii.

Pleurisies, and gives this exceeding good Caution: That we should neither suffer the Body to be too costive, lest it encrease the Fever, nor too loose, lest both the Strength and Spitting fail *.

This done let the pained Part be fomented with a Decoction of *Sem. Lini.—Fœnugræc. Flor. Chamæm.* in Milk and Water.—This was also the Practice of the Ancients; *Hippocrates* † says Fomentations should be tried both at the very Begining, and afterwards, to resolve the pleuritic Pains: These, both of the dry and humid Kind, he constantly advises in Pleurisies.—I have often seen them succeed, when repeated Bleeding had proved ineffectual.—Pain, especially inflammatory Pain, always arises from too great a Tension of the Fibres, which emollient Fomentations, by relaxing, take off. I greatly prefer humid Fomentations, or Cataplasms, to any Thing of a dry Heat in an inflammatory Pain of the Breast, or Side, as they without all Doubt much more efficaciously relax: *Hippocrates* himself advises against using the *dry Stupes* ‖ too long, and recommends those that are moist ‡ near the *Crisis.*——*Celsus* says, we should use the dry and hot, when the Inflammation is a little abated, and then pass on

* *Lib. III. de Morbis, Sect.* xvii. † *De Vict. acut. Sect.* xi, xii. *Edit. Linden.* ‖ *Ibid. Sect.* xii. ‡ *Lib. III. de Morbis, Sect.* xxiii.

to the *Malagmata* *. I commonly apply an anodyne Plaſter of *Opium* ℥i, *Camphire* ℈i, *Emplaſtr. è Cymino*, after due Fomentations, with very good Succeſs, but always firſt try the humid Fotus.—In very threatening Circumſtances, Fomentations alſo may be applied to the Abdomen, *Inguina*, &c. which, by taking down the too great Stricture of the Fibres in general, will leſſen the Impetuoſity of the Blood.—Emollient *Baths* would be more effectual, when they can be conveniently uſed; *Hippocrates* ſays they relieve Pains of the Back, Sides and Breaſt: Their exceeding good Effects in *Colics, and nephritic Paroxyſms*, ſhould prompt us to try them in very violent obſtinate Pleuriſies, and a *Paraphrenitis*. — The Ancients ſuppoſed that warm Applications digeſted the Matter, and promoted Expectoration; the latter they certainly do by eaſing the Pain, and giving more Liberty to the intercoſtal Muſcles, &c. to expand and contract the Thorax, and pump up the Matter; hence in *Pleuropneumonies* they cannot but be of very conſiderable Service, even in that Reſpect.

Nitrous Medicines, with a cooling, emollient, diluting Regimen, ſhould be forthwith entered upon. Thin Whey, a Decoction of Barley and red Poppies, Emulſions, and ſuch

* *Lib. IV. Cap.* 6.

like

like, anſwer all the Intentions of Drink; and Nitre both cools and attenuates the Blood: With theſe ſhould be joined gentle Anodynes, repeated as there may be Occaſion; *Elixir paregoricum* and *Diacodium* ſeem to me the moſt adapted: To theſe may be added *Sperma ceti*, a ſoft relaxing animal Oil, very penetrating, though not heating; and, where the Rigidity of the Fibres is very great, the cool vegetable Oils, as of Linſeed, or Almonds, may be given with Advantage. That an emollient relaxing Method is indicated, in the Cure of Pleuriſies, is evident from hence, *viz.* That the ſtrong and laborious Perſons of very rigid Fibres, and dry Conſtitutions, are moſt ſubject to this Diſeaſe, and ſuffer moſt from it, and withal that it rages moſt in cold and dry Seaſons.

The Violence of Pain unqueſtionably demands the Uſe of Opiates, after Bleeding, which prudently interpoſed are certainly of exceeding great Service.—As Pain is a *Stimulus*, which greatly quickens the Circulation, and heats the Blood, and derives likewiſe more than natural to the pained Part; it cannot but encreaſe the Inflammation. —— A Thorn in the Fleſh will cauſe ſome Degree of Fever, and an Inflammation around it.—Moreover when a ſharp Cough attends, as in Pleuro-peripneumonies, it ſhould be mitigated by *Diacodium*, or the like; elſe the great Agitation, it cauſes,

will

will alſo encreaſe the Inflammation.—It is true indeed, theſe demand ſome Degree of Caution and Prudence in the Uſe of them; therefore ever remember, before you enter upon them, the Lancet is not to be ſparingly uſed, when the Pain is very violent, the Pulſe very hard, quick and tenſe, and the Fever high. —— The following Inſtance ſhews what may, and muſt be done ſometimes in Pleuriſies and *Pleuropneumonies*, when the Attack is with extreme Violence.

About four Years ſince a ſtrong plethoric Gentleman, about forty, was ſeized with a Fever and a violent Pain of his Side: He was immediately bled to ſixteen or eighteen Ounces: —This abated the Pain.—He got up, ſat by the Fire in a ſmoaky Chamber, drank near a Quart of cold Cyder, fell into a vaſt Rigor, ſucceeded by a high Fever, exceſſive Pain of his Side and Breaſt, great Difficulty of breathing, Delirium, and the moſt inceſſant terrible Cough I ever heard, which pumped up great Quantities of freſh frothy Blood.—I was obliged to bleed him three Times in twenty-four Hours, and to give him *ſeven Grains of ſolid Laudanum, beſides two or three Ounces of Diacodium*, in that ſhort Space of Time;—and this, and this only (for he would take no other Medicine) happily recovered him.—This indeed is a very extraordinary Inſtance:—But the Method

thod, which is above recommended, I have in a Multitude of Cases experienced to be very safe and very effectual; infinitely more so, I think, than the *Sanguis hirci*, *Priapus tauri*, and the other Whimsies which *Helmont*, so greatly extolls in appeasing the *Archæus*, and quieting the *Pleura furens* *; notwithstanding he is so very arch and severe on the Sons of *Galen* and the *Schools*, for attempting to cure Pleurisies by Bleeding.

In several epidemic Pleurisies, I have known easy Sweating, especially after the third or fourth Day, of very great Advantage; and, with this View, have often added Camphire to the Nitre, *&c.* which, joined with small Doses of *Elixir paregoricum* out of thin warm Whey, or Ptisan, seldom or never fails of answering the Intention. — In chilly wet Seasons, and Persons formerly subject to catarrhal, or cold rheumatic Disorders, this is a very proper Method, when a due Quantity of Blood hath been previously drawn off: In such Cases also gentle Purging is useful.—It is certain, from the best Observations, that in some Constitutions of the Air Patients, under pleuritic Diseases, will not bear the Loss of much Blood, particularly in continued wet foggy Weather: In general, we find they sustain the Loss with much better Ef-

* *Vid.* Helmont. *Pleura furens.*

fect,

fect, and less Inconveniency, in a cold dry Spring than in a wet Summer, or a rainy Autumn. Nay there are some Pleurisies, at least vulgarly so called, that will admit of little or no Bleeding, in which the Pain of the Side seems a mere Symptom, not the Disease; as the Pains and Soreness preceding, or attending putrid malignant Fevers, Small-pox, *&c.* are not properly rheumatic, but purely symptomatical.—Such Pains then arise from Acrimony, not Inflammation, and are to be cured by Diluents, Diaphoretics, Eccoprotics, Blistering, *&c.* not by Bleeding, which is forbidden by the Ancients where *Bile* (by which they meant Acrimony) is greatly predominant.

It was an Observation of *Asclepiades* *, that the People of *Rome* and *Athens* did not bear Bleeding in Pleurisies and Peripneumonies as well as those about the *Hellespont*; the former lying to the South, and in a much more warm and moist Air than the latter, who were much exposed to cold dry northerly and easterly Winds: *Hollerius* makes the same Observation with Respect to the People of *Paris*, who lie pretty cold, and the Inhabitants of the southern Parts of *France*, who are more to the South and much warmer †.—Indeed, within a much

* *Vid. Cæl. Aurelian. Lib. II. Cap.* xxii. *de Morbis acutis & chronicis, Amst.* 1722. 4*to.*

† *Holler. in Aphorism.* 2. *Hippocr. Sect.* i.

narrower Compass, I have once and again taken Notice, that an epidemic Disorder, which in low warm Places near the Sea proved only a slight catarrhal Fever, and scarce required any Manner of Bleeding, hath, in the neighbouring cold and high Exposures, been attended with severe pleuro-peripneumonic Symptoms, and demanded no small Evacuation of Blood. —Without all Doubt, the very Constitution of the Solids and Fluids differs considerably, according to the different Situation of the Inhabitants.—Upon the whole then let me add this *Corollary*, that in Practice we not only ought to consider the peculiar Nature of the Epidemic, but also of the Season, and the Constitution of the Patients.



APPENDIX.



APPENDIX.

A Method for preserving the Health of Seamen in long Cruises and Voyages.

IT is well known what vast Numbers of Sailors we have lost within these few Years, by terrible scorbutic Disorders, owing chiefly to bad Provisions, bad Water, bad Beer, *&c.* the unavoidable Consequence of long Cruises and Voyages: For the Provisions will naturally decay, the best Beef and Pork corrupt, the Water spoil, and the Beer (at least such as the Navy is supplied with) will not keep good very long. Of Course, the long and constant Use of such Provisions must by Degrees taint the Juices of the Body, produce great Acrimony in the Blood, and dispose it daily more and more to a State of Putrefaction. These Effects will be considerably augmented by living continually in a moist, salt Atmosphere, and breathing the foul, polluted Air between Decks.

Conſtant Experience ſhews this to be the Caſe. I have known more than a thouſand Men put aſhore ſick out of one ſingle Squadron, after a three Months Cruiſe, moſt of them highly ſcorbutic; beſides many that died in the Voyage. The Fleet returns to its Port; freſh Air, wholeſome Liquor, freſh Proviſions, eſpecially proper Fruits and Herbage, ſoon purify the Blood and Juices of the Sick, and reſtore their Health. The freſh Air, Proviſions, Fruits, and Garden-ſtuff, which the *Engliſh* and *Dutch* meet with at *St. Helena*, and the *Cape of Good Hope*, are of the higheſt Advantage to them in their *Eaſt-India* Voyages; without which they always become extreamly ſickly.

Phyſicians well know, that the moſt effectual Method of correcting an alcaleſcent Acrimony of the Blood, and of preventing the further Advances of Putrefaction in the Humors, is by vegetable and mineral Acids; the former of which are much the ſafeſt, and may be given in Draughts, the other only by Drops.

That the State of the Blood, in the common Sea-ſcurvy, is of this Nature, appears from the ſtinking Breath of the Sick, their rotten corroded Gums, high-coloured fœtid Urine, ſordid Ulcers, black, blue, and brown Spots, and Eruptions on the Skin, frequent feveriſh Heats, foul Tongues, bilious and bloody Dyſenteries,

ſenteries, which more or leſs always attend it. Now it is alſo well known, that a vegetable aceſcent Diet and Regimen, freſh Air, freſh Proviſions, ſubacid and vinous Drinks, are its certain and ſpeedy Cure, when not very far advanced. Apples, Oranges, and Lemons, alone, have been often known to do ſurpriſing Things in the Cure of very deplorable ſcorbutic Caſes, that aroſe from bad Proviſions, bad Water, *&c.* in long Voyages.

But what will cure will prevent. If therefore ſuch a Diet and Regimen can be uſed at Sea, it will prove a Kind of a continual Antidote to the rank putreſcent Qualities of the common Ships Proviſion, and correct, at leaſt very much leſſen, the ill Effects. And it is eventually found, that the Officers, who carry Wine, Cyder, Lemons, freſh Proviſions, *&c.* are infinitely leſs affected with the Scurvy, than the poor common Sailors, who are not ſo provided.

Is it practicable then to introduce ſuch a general Regimen into the Navy? I think it is; and, from Reaſon and Experience, I recommend the following Method.

Let all Ships, that are to proceed on a long Cruiſe or Voyage, be ſupplied with a ſufficient Quantity of ſound, generous Cyder; the rougher, provided it is perfectly ſound, the better. If Apples are found of ſuch vaſt Ser-

vice in the Scurvy, ſurely the Juice of them, when become a vinous Liquor, cannot but be very ſalutary; and ſeems exceedingly well adapted, as a common Drink, to correct by its Acidity the alcaleſcent putrefying Quality of bad, corrupt Proviſions. This Cyder ſhould be at leaſt three Months old before it is ſerved in, and quite fine. If it be too new, and foul, it is apt to give ſevere Colics: It ſhould be racked off once at leaſt from its groſs Ley into good and ſweet Veſſels, which will contribute to its becoming fine, and prevent it from growing ropy, in which State it is good for nothing. But if ſome of it ſhould turn to Vinegar, which may frequently happen, it will ſtill be very ſerviceable; but it is found, when well managed, to keep good and ſound even to the *Indies*.

Every Sailor ſhould have at leaſt a Pint of Cyder a Day, beſides Beer and Water. And I would adviſe alſo a frequent and free Uſe of Vinegar in the Seamen's Diet; eſpecially when the Proviſions begin to grow rancid. Beſides this, the Decks, *&c.* ſhould be frequently waſhed or ſprinkled with Vinegar; after having drawn the groſs and foul Air out of the Ship by Mr. *Sutton*'s Contrivance, or by Dr. *Hales*'s Ventilators; which ſhould be done once at leaſt every Day.

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In autumnal Cruiſes a Quantity of Apples might be alſo carried, which, when well choſen and well put up in dry tight Casks, will keep very good for two or three Months. Even Lemons and Oranges wrapt in Flannel (or ſomething that will imbibe their exhaling Moiſture) kept in cloſe dry Veſſels, and pretty cool, may be preſerved a long while alſo. If this is not ſo feaſible, a Mixture of Lemon Juice and Rum (Shrub as they call it) may be carried in any Quantity; as it will keep a long Time, and would prove infinitely more wholeſome than the naſty fiery poiſonous Spirits, which are dealt about ſo largely in the Navy and elſewhere. By the bye, nothing would more effectually correct the pernicious Qualities of theſe Spirits than Lemon Juice.

In the Caſe of ſtinking Water, Juice of Lemon, Elixir of Vitriol, or Vinegar, ſhould be always mixed with it, which will render it much leſs unwholeſome: The *Roman* Soldiers drank *Poſca (viz.* Water and Vinegar) for their common Drink, and found it very healthy and uſeful.

Elixir of Vitriol and Vinegar are already allowed to the Navy in large Quantities, and have been found greatly ſerviceable. And there was lately an Order iſſued for ſupplying the Ships of War with Cyder alſo, which I

am morally certain will be of the highest Advantage, if properly and honestly managed. Indeed it hath already been actually found so in some few Men of War, and other Ships, where it hath been tried, even though in small Quantities. Let me add, that the Prize Wines, which are commonly low and thin, and very frequently spoil by keeping, might be distributed amongst the Sailors (especially in Want of Cyder) to very good Purpose.

This indeed may be deemed a very expensive Project; but, where the Lives of so many brave and useful People are in the Case, I think the Cost should by no Means come into Competition with the Advantage that may be received from it: The *Romans* constantly carried with them Vinegar and Wine in their Fleets and Armies, and the common Soldier and Sailor daily partook of both: Nay, they were at many other considerable Expences to preserve the Health of their Armies, &c. Now, if that glorious prudent People thought the Life of a *Roman* Soldier so valuable, and were at such Expence to preserve it; why should not we have as much Regard to that of a *British* Sailor, who is altogether as brave and as useful to the Commonwealth?

I cannot conclude without taking Notice, that the usual Method of impressing Seamen

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on their Return from long and tedious Voyages, void of Neceſſaries, chagrined at not ſeeing their Friends and Families, and moſt commonly in a bad State of Health, and not allowed Time and Opportunity to recover it, hath been the Bane of Thouſands: And I could wiſh, for the Honour of the Nation, a Method of manning our Fleet could be found out more conſiſtent with common Humanity and *Britiſh* Liberty.

Plymouth, Sept. 30, 1747.



A DISSER-



A

DISSERTATION

ON THE

Malignant Ulcerous Sore-Throat.



SINCE the Publication of my *Essay on Fevers*, I have had frequent Opportunities of making Observations on a Disease of the putrid, malignant Kind, which abundantly confirm my Notions of the Cause and Cure of malignant pestilential Fevers.——I mean what is called the *Angina maligna*, or *Ulcerous Sore-Throat*, which hath appeared up and down this Kingdom for several Years, in some Places very common and exceedingly fatal, especially to Children.

The first accurate Account we had of this Distemper in *England*, was from the very ingenious Dr. *Fothergill*, in 1748. — But several of

of the *Spanish* and *Italian Physicians* have described exactly such a Kind of Disease, as raging with great Violence and Mortality in *Spain*, and several Parts of *Italy*, in the Begining of the last Century.——Perhaps the *Syrian* and *Ægyptian Ulcers* mentioned by *Aretæus Cappadox*, and the *pestilent ulcerated Tonsils*, we read of in *Ætius Amidenus*, were of this Nature;—and truly some of the Scarlet Fevers, mentioned by *Morton*, seem not much unlike it.

It is not above six, or seven Years since I met with it in this Town and Neighbourhood, though it raged with great Fatality in and about *Lostwithiel*, *St. Austle*, *Fowye*, and *Liskeard*, a Year or two before——From the latter Part of the Year 1751 to *May* 1753 it was very common in this Town, and Places adjacent, especially in the Year 1752, and not only carried off Children, but several Adults.

As a faithful and accurate History of Diseases, their various Symptoms, and Methods of Cure, is the most effectual Way of promoting the Art of Healing, Physicians should describe with the utmost Care the Diseases they would treat of, and the good and bad Effects of any Method, or Medicines, they have used to remove them. —— But in a more particular Manner is this necessary when any new, or uncommon Distemper occurs, of which the peculiar pathognomonic and diagnostic Signs should

be carefully laid down, and a particular Account given of what Evacuations, Regimen, and Medicines were useful, or hurtful, in it.— And this Method I shall endeavour to pursue with the utmost Attention in the following Account.

A vast Quantity of Rain fell during the Year 1751, the Summer particularly was, in general, uncommonly wet, cold, and frequently stormy.—— At the Begining of *June* however we had exceeding hot Weather, and some very sultry Days also in *July* and *August*; the Atmosphere was almost always thick and moist, but the Barometer low commonly. —— The Fruits of the Earth were crude, watery, and insipid; the Harvest was excessively bad, and the Grain of all Kinds suffered greatly.—Notwithstanding this we had but little Sickness, at least no very epidemical Distemper: But the Small-pox (brought in by *Conway*'s *Regiment*, in *May*) spread in this Town considerably in *July* and *August*; and there were then several putrid and miliary Fevers, in the southern Parts of this County. —— Indeed, though we were not here very sickly, yet hypochondriacal and hysteric Disorders greatly prevailed, and there was a Kind of universal Inactivity and Lowness of Spirits every-where.

The Small-pox became much more common in the Autumn, and of a much worse Kind than

than they were at their firſt Appearance, and about the Mid-winter were very epidemic and fatal. — In the mean Time there were Abundance of Catarrhs, mucous and inflammatory Sore-Throats, ſome Pleuriſies and Peripneumonies; and commonly Eruptions of the eryſipelatous, or puſtular Kind, attended all theſe Diſorders.

The Weather ſtill continued wet, and often very boiſterous, the Wind various.— *December* was a cold Month, but wet from the 15th to the 25th. — The ſame Diſeaſes continued, and about the End of the Year were ſeveral malignant ulcerous Sore-Throats up and down.

The Year 1752 began cold, wet, and frequently ſtormy, the Wind moſt commonly from the Eaſt, verging however conſiderably now to the North, now to the South; the Barometer often very low, though at the Begining of *January* very high, with ſharp Froſt.— The Small-pox continued epidemic, often crude, cryſtalline, and undigeſted to the very End, ſometimes very confluent, ſmall and ſeſſile; ſome black and bloody, and now and then attended with Petechiæ.—Pleuroperipneumonies, and Rheumatiſms, were not uncommon; catarrhal and mucous Squinzies with much Cough, and a large thin Spitting, were very rife; and now alſo there were ſeveral malignant

lignant dangerous Sore-Throats with no small Degree of Fever.

Both at the Begining, and End, of *February*, the Mercury was high, and the Air clear, dry, and frosty; but, from the 8th to the 21st, there was much Rain with the Wind generally at South. —— Many Small-pox were in the Town, though few in the Neighbourhood; several Pleurisies, Peripneumonies, and Rheumatisms, a vast Quantity of catarrhal, mucous Sore-Throats, and many inflammatory Squinzies; and still some of the malignant Kind.

The Weather was pretty cold and dry in *March*, especially at the Begining, and latter End; and the Barometer high, at no Time very low.——The Small-pox grew more mild, and much less frequent; — the other Diseases also less common, but more inflammatory; no malignant Sore-Throats: Many were severely tormented with Coughs, and obstinate asthmatic Disorders. — The Blood now drawn was commonly more dense and viscid than it had been for many Months.

The north-east Wind prevailed at the Begining of *April*, and rendered the Air dry, clear, and pretty cold; the Baroscope high: A showery Season succeeded for four, or five, Days, and then the dry north-east Wind return'd, from the 21st it was W. N. W.— The Small-pox still up and down, some of a bad Sort: Many

Many Pleurisies, and Peripneumonies, Rheumatism, Jaundice, and Dropsy frequent; severe Coughs every where: A vast many are troubled with *Worms*, even Adults, as well as Children.

Though we had some agreeable Weather in *May*, the Summer was wet, cold, and uncomfortable; the Atmosphere thick and foggy, the Barometer seldom high, the S. W. and N. W. Winds were much the most frequent. The Fruits of the Earth did not ripen well, but were watery and insipid; a bad Harvest, bad Grain. — A great Dejection of Spirits, Listlessness, and Lassitude were universally complained of. —— The Small-pox became much more numerous in *June*, and were epidemic all the Summer, and rather of a worse Kind than in the Spring, not only here, but every-where in the Neighbourhood; they were frequently confluent, very small, and sometimes black, attended with Hæmorrhages of the Nose, especially in Children; but the Petechiæ were much less common than I expected; sometimes they were very crude, crystalline, and indigested, running into large Blisters, eroding the Skin greatly. — Rheumatisms, Gout, and Coughs were in vastly greater Plenty than usual at this Time of the Year.

Now also exactly such a Kind of Fever, as I

called,

called, in my 1*st Volume of Epidemics*, *Febris anginosa*, raged up and down with great Violence, attended with scarlet or pustular Eruptions, and succeeded with great Itching and Desquamation of the Cuticle. In this the Pulse was commonly hard, quick, and small, the Breathing hot, and laborious, with great Oppression on the Præcordia, the Urine sometimes crude and pale, sometimes high-coloured and turbid, but without Sediment; a Delirium generally came on soon.— The Sick commonly bore Bleeding at the Begining with Advantage, and the Blood was often sizy, though much less so in general than in Squinzies of the truly inflammatory Kind; they very seldom however admitted of large Bleeding, scarce indeed of a second.

In all Sorts of Fevers there was a surprizing Disposition to Eruptions of some Kind or other, to Sweats, Soreness of Throat and Apthæ.—— The Small-pox were more fatal in *August*, and sometimes attended with a very dangerous Ulceration in the Throat, and Difficulty of Swallowing.—Indeed the malignant ulcerous Sore-Throat was now also frequent, probably sometimes complicated with the Small-pox.

The Autumn was much more fair, and comfortable, than the Summer, particularly the Month of *October* was for the greater Part beautiful and serene, the Mercury high; however,

ever, the Atmoſphere was generally thick, and ſometimes very moiſt, the Wind commonly from the eaſtern Quarters : *November* was leſs wet and ſtormy than uſual, and in general warm; the Barometer pretty high, but the Air thick and humid. — At the Begining of *December* the Quickſilver was exceeding high, the Air cold and dry, Wind E. N. E; but from the 6th to the 26th very wet and foggy, ſometimes boiſterous, and the Barometer ſunk very much ; towards the End the Eaſterly Wind returned, raiſed the Mercury, and reſtored fine, cold Weather.

During this Period the Small-pox continued epidemic every where, and, though ſomewhat more mild in *September* and *October*, yet here and there they were very confluent, attended with Spots and Hæmorrhages of the Noſe.—In *December* they were often crude, numerous, and undigeſted to the laſt, running into very large Veſications, deeply eroding the ſubjacent Parts: the Cruſts of the black confluent many Times remained for at leaſt thirty Days after the Eruption.—The *anginoſe Fever* alſo ſtill continued—and we had ſeveral of the *malignant Sore-Throats* in *September*, many more in *October*, in *November* and *December* they were exceeding common in this *Town*, at the *Dock*, and all around us, and carried off a great many Adults, as well as Children.—During this

Time likewise catarrhal, mucous Sore-Throats were innumerable, but with little Severity, or Danger.—In *October* particularly, after a few Days of foggy, stormy, rainy Weather, we had from the 12th to the 16th very cold Mornings, and immense hoar Frosts with some Ice, in which Time Hundreds of People were at once seized with a Cough, Sore-Throat, and a great Defluxion from the Nose, Eyes and Mouth, attended with a slight Fever, and more, or less, of a *Rash*, several with great *Fluxes* of the *Belly*.—Coughs, Catarrhs, Rheumatisms and Fluxes were excessively common in *November* and *December*, especially catarrhal Coughs, with which almost every one was in some Degree troubled; and yet there were very few Peripneumonies, or Pleurisies; however, Abundance fell into a pulmonary Phthisis, and many died tabid.

For many Months past we had scarce the slightest Fever but it was attended with a Sore-Throat, Apthæ, and some Kind of cuticular Eruption, and that too even in pleuritic and peripneumonic Disorders—so greatly did the Constitution of the Air, &c. seem disposed to produce Eruptions in all Sorts of feverish Indispositions.—The Blood drawn from the Diseased, during all this Time, hath been very rarely viscid, but generally florid seemingly, espe-

eſpecially at the very Begining of the Malady, and of a very looſe Texture.

Thus ended the Year 1752.—The following Part of the Winter, and ſucceeding Spring, was very cold and wet; the cold Weather continued till the Middle of *May*, and made a very backward Spring. Then came on very fine hot Weather, and we had the warmeſt and moſt beautiful Summer, that hath been known for many Years.—The Small-pox, and both catarrhal and malignant Squinzies grew leſs frequent, and leſs fatal, from *January* to *May*, when both entirely ceaſed.—As the Spring advanced, we had ſeveral Pleuriſies, Peripneumonies, and a vaſt Number of catarrhal Diſorders:—The Blood now drawn was much more denſe and viſcid in general than had been obſerved for many Months before.

I have given this ſhort Account of the Conſtitution of the Air and Diſeaſes, during this Period, in which Sore-Throats of one Kind, or another, were much more frequent than I ever before remember, and with which alſo cuticular Eruptions of various Sorts were exceedingly common, and this too even in the ſlighteſt Fevers that happened.—And this I have particularly done, that perhaps from it ſome rational Conjectures of the Cauſe and Nature of ſuch Diſorders may be made.—Did the long cold and wet Seaſons occaſion them,

by hindering a due and regular Perspiration? The suppressed Perspirabile grows very acrid, and productive at length of a Variety of Diseases, particularly such as pass under the general Name of Scorbutic, as well as more immediately of Catarrhs, Squinzies, Peripneumonies, Fluxes, Colics, &c. which are notoriously the Effects of suppressed Perspiration.—But my present Design is not to enter into Disquisitions of this Nature.—I proceed therefore to give the most exact Account, I possibly can, of the *Malignant, Ulcerous Sore-Throat*, as it raged here during the Period above described, especially in 1752.—To which I shall subjoin the Method of Cure I found most successful.

The *Attack* of this Disease was very different in different Persons.—Sometimes a Rigor, with some Fulness and Soreness of the Throat, and painful Stiffness of the Neck, were the very first Symptoms complained of.—Sometimes alternate Chills and Heats, with some Degree of Head-ach, Giddiness, or Drowsiness, ushered in the Distemper.—It seized others with much more feverish Symptoms, great Pain of the Head, Back, and Limbs, a vast Oppression of the Præcordia, and continual Sighing.—Some grown Persons, on the contrary, moved about for a Day, or two, neither sick or well, as it were, but under Uneasiness and Anxiety till they were obliged to lie

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for it. Thus various was the Diſeaſe at the *Onſet.* But it commonly began with Chills and Heats, Load and Pain of the Head, Soreneſs of Throat and Hoarſneſs, ſome Cough, Sickneſs at Stomach, frequent Vomiting and Purging, in Children eſpecially, which were ſometimes very ſevere; though a contrary State was more common to the Adult.—There was in all a very great Dejection of Spirits, very ſudden Weakneſs, great Heavineſs on the Breaſt, and Faintneſs, from the very Begining.—The Pulſe in general was quick, ſmall and fluttering, though ſometimes heavy and undoſe.—The Urine commonly pale, thin and crude, however, in many grown Perſons in ſmall Quantities, and high-coloured, or like turbid Whey.—The Eyes were heavy, reddiſh, and as it were weeping,—the Countenance very often full, fluſhed and bloated, though ſometimes pale and ſunk.

How ſlight ſoever the Diſorder might appear in the Day-time, at Night the Symptoms became greatly aggravated, and the feveriſh Habit very much encreaſed, nay, ſometimes a Delirium came on the very firſt Night; and this Exacerbation conſtantly returned in the Evening through the whole Courſe of the Diſeaſe.—Indeed, when it was conſiderably on the Decline, I have been often pretty much ſurprized to find my Patient had paſſed the whole

Night in a Phrenzy, whom I had left tolerably cool and sedate in the Day.

Some few Hours after the Seizure, and sometimes cotemporary with it, a Swelling and Soreness of the Throat was perceived, and the Tonsils became very tumid and inflamed, and many times the parotid and maxillary Glands swelled very much, and very suddenly, even at the very Begining; sometimes so much as even to threaten Strangulation. The Fauces also very soon appeared of a high florid Red, or rather of a bright Crimson Colour, very shining and glossy; and most commonly on the *Uvula*, *Tonsils*, *Velum Palatinum*, and back Part of the *Pharynx*, several whitish, or Ash-coloured Spots appeared scattered up and down, which oftentimes encreased very fast, and soon covered one, or both the Tonsils, Uvula, *&c*: these in Event proved the *Sloughs* of superficial Ulcers (which sometimes however eat very deep into the Parts). The Tongue at this Time, though only white and moist at the Top, was very foul at the Root, and covered with a thick yellowish, or brown Coat.—The Breath also now began to be very nauseous, which offensive Smell encreased hourly, and in some became at length intolerable, and that too sometimes even to the Patients themselves.

The second, or third Day, every Symptom became much more aggravated, and the Fe-

ver much more conſiderable, and thoſe, that had ſtruggled with it tolerably well for thirty or forty Hours, were forced to ſubmit.—The Reſtleſſneſs and Anxiety greatly encreaſed, as well as the Difficulty in Swallowing.—The Head was very giddy, pained, and loaded; there was generally more or leſs of a Delirium, ſometimes a Pervigilium and perpetual Phrenzy, though others lay very ſtupid, but often ſtarting and muttering to themſelves.—The Skin was very hot, dry and rough; there was very rarely any Diſpoſition to ſweat. The Urine pale, thin, crude, often yellowiſh, and turbid. Sometimes a Vomiting was urgent, and ſometimes a very great Looſneſs, in Children particularly. The Sloughs were now much enlarged, and of a darker Colour, and the ſurrounding Parts tended much more to a livid Hue.—The Breathing became much more difficult, with a Kind of a *rattling Stertor*, as if the Patient was actually ſtrangling, the Voice being exceeding hoarſe and hollow, exactly reſembling that from *venereal Ulcers in the Fauces*; this Noiſe in Speaking and Breathing was ſo peculiar, that any Perſon in the leaſt converſant with the Diſeaſe might eaſily know it by this odd Noiſe; from whence indeed the *Spaniſh Phyſicians* gave it the Name of *Garotillo*, expreſſing the Noiſe ſuch make as are ſtrangling with a Rope.—I never obſerved in one of

them the shrill, barking Noise, that we frequently hear in inflammatory Squinzies. The Breath of all the Diseased was very nauseous, of some insufferably fœtid, especially in the Advance of the Distemper to a Crisis; and many about the fourth or fifth Day spit off a vast Quantity of stinking, purulent Mucus, tinged sometimes with Blood, and sometimes the Matter was quite livid, and of an abominable Smell. The Nostrils likewise in many were greatly inflamed and excoriated, continually dripping down a most sharp *Ichor*, or *sanious Matter*, so excessively acrid, that it not only corroded the Lips, Cheeks, and Hands of the Children, that laboured under the Disease, but even the Fingers and Arms of the very Nurses, that attended them: As this Ulceration of the Nostrils came on, it commonly caused an almost incessant Sneezing in the Children, but few Adults were affected with it, at least to any considerable Degree. It was surprizing what Quantities of Matter some Children discharged this Way, which they would often rub on their Face, Hands and Arms, and blister them all over.—A sudden Stoppage of this Rheum from the Mouth and Nostrils actually choaked several Children; and some swallowed such Quantities of it, as occasioned Excoriations of the Intestines, violent Gripings, Dysentery, *&c*; nay, even Excoriations

coriations of the Anus and Buttocks.—Not only the Noſtrils, Fauces, *&c.* were greatly affected by this extreamly ſharp Matter, but the Wind-pipe itſelf was ſometimes much corroded by it, and Pieces of its internal Membrane were ſpit up, with much Blood and Corruption, and the Patients lingered on for a conſiderable Time, and at length died tabid; tho' there were more frequent Inſtances of its falling more ſuddenly and violently on the Lungs, and killing in a peripneumonic Manner.

I was aſtoniſhed ſometimes to ſee ſeveral ſwallow with tolerable Eaſe, though the Tumour of the Tonſils and Throat, the Quantity of thick Mucus, and the rattling Noiſe in breathing, were very terrible; which I think pretty clearly ſhews, that this malignant Squinzey was more from the Acrimony and Abundance of the Humours than the Violence of the Inflammation.

Moſt commonly the *Angina* came on before the *Exanthemata*, but many times the cuticular Eruption appeared before the Sore-Throat, and was ſometimes very conſiderable, though there was little, or no Pain in the Fauces; on the contrary, a very ſevere Angina ſeized ſome Patients, that had no Manner of Eruption, and yet, even in theſe Caſes, a very great Itching and Deſquamation of the Skin ſometimes enſued,

ensued, but this was chiefly in grown Persons, very rarely in Children.—In general, however, a very considerable *Efflorescence* broke out on the Surface of the Body, particularly in Children, and it most commonly happened the second, third, or fourth Day; sometimes it was partial, sometimes it covered almost the whole Body, tho' very seldom on the Face: Sometimes it was of an *Erysipelatous* Kind, sometimes more *pustular*; the Pustules were frequently very eminent, and of a deep, fiery, red Colour, particularly on the Breast and Arms, but oftentimes they were very small and might be better felt than seen, and gave a very odd Kind of Roughness to the Skin. The Colour of the Efflorescence was commonly of a Crimson Hue, or as if the Skin had been smeared over with *Juice of Rasberries*, and this even to the Fingers Ends; and the Skin appeared inflamed and swoln as it were, the Arms, Hands and Fingers were often evidently so, and very stiff, and somewhat painful.—This Crimson Colour of the Skin seemed indeed peculiar to this Disease.—Though the Eruption seldom failed of giving some manifest Relief to the Patient, as to Anxiety, Sickness at Stomach, Vomiting, Purging, *&c.* yet I observed an universal, fiery Eruption on some Persons, without the least Abatement of the Symptoms, nay, almost every Symp-

tom ſeemed more aggravated, particularly the Fever, Load at Breaſt, Anxiety, Delirium; and I knew more than one, or two Patients die in the moſt raging Phrenzy, covered with the moſt univerſal, fiery Raſh, I ever ſaw: So that, as in the highly confluent Small-pox, it ſeemed only to denote the *Quantity of the Diſeaſe*, as I may term it.

I had under my Care a young Gentleman, about twelve Years of Age, whoſe Tongue, Fauces, and Tonſils were as black as Ink, and he ſwallowed with extream Difficulty; he continually ſpit off immenſe Quantities of a black, ſanious, and very fœtid Matter for at leaſt eight or ten Days—about the ſeventh Day, his Fever being ſomewhat abated, he fell into a bloody Dyſentery, tho' the bloody, ſanious, fœtid Expectoration ſtill continued with a moſt violent Cough.—He at length indeed got over it, to the very great Surprize of every one that ſaw him.—Now in this Patient, as ſevere and univerſal a *Raſh* broke out upon him the ſecond and third Day, as I ever met with, and the Itching of his Skin was ſo intolerable, that he tore it all over his Body in a moſt ſhocking Manner; yet this very great and timely Eruption very little relieved his Fever and Phrenzy, or prevented the other dreadful Symptoms mentioned.

An early and kindly Eruption, however, was moſt

most commonly a very good Omen, and, when succeeded by a very copious Desquamation of the Cuticle, one of the most favourable Symptoms that occurred; but when the Eruption turned of a dusky or livid Colour, or prematurely or suddenly receded, every Symptom grew worse, and the utmost Danger impended, especially if purple, or black, Spots appeared up and down, as sometimes happened; the Urine grew limpid, and Convulsions came on, or a fatal Suffocation soon closed the Tragedy.

The Disease was generally at the Height about the *fifth* or *sixth* Day in young Persons, in the elder not so soon, and the *Crisis* many Times was not till the *eleventh* or *twelfth*, and then very imperfect: Some Adults however were carried off in two or three Days, the Distemper either falling on the Lungs, and killing in a peripneumonic Manner, or on the Brain, and the Patient either died raving, or comatose.—In some the Disease brought on a very troublesome Cough, purulent Expectoration, Hæmoptoë and Hectic, in which they lingered on for several Weeks, and then died tabid.

If a gentle easy Sweat came on the third or fourth Day, if the Pulse became more slow, firm, and equal; if the Sloughs of the Fauces cast off in a kindly Manner, and appeared at the Bottom tolerably clean and florid; if the Breathing was more soft and free, and some Degree

Degree of Vigour and Quickneſs returned in the Eyes, all was well, and a ſalutary Criſis followed ſoon by a Continuance of the Sweat, and a turbid, ſubſiding, farinaceous Urine, a plentiful Expectoration, and a very large Deſquamation of the Cuticle. — But if a Rigor came on, and the Exanthemata ſuddenly diſappeared, or turned livid; if the Pulſe grew very ſmall and quick, and the Skin remained hot and parched as it were, the Breathing more difficult, the Eyes dead and glaſſy, the Urine pale and limpid, a Phrenzy or Coma ſucceeded, with a coldiſh, clammy Sweat on the Face, or Extremities, Life was deſpaired of, eſpecially if a *Singultus* and *Choaking*, or *Gulphing* in the Throat attended, with ſudden, liquid, involuntary, livid Stools, intolerably fœtid. —— In ſome few Patients I obſerved, ſome Time before the fatal Period, not only the Face bloated, ſallow, ſhining, and greaſy as it were, but the whole Neck vaſtly ſwoln, and of a cadaverous Look; and even the whole Body became, in ſome Degree, œdematous, and the Impreſſion of a Finger would remain fixed in a Part, the Skin not riſing again as uſual; an Indication, that the Blood ſtagnated in the Capillaries, and that the Elaſticity of the Fibres was quite loſt.

As there were ſo many different Kinds of Squinzies and eruptive Diſorders, during the Period,

Period, in which the malignant ulcerous Sore-Throat raged, the Likeness of the Symptoms, at the very Beginning of these various Diseases, made it not a little difficult, to the younger and less experienced Practitioners especially, to know what Methods to pursue at the *Onset*; particularly as to the common Evacuations; seeing it was now certain, from sufficient Experience, that in what is called the *malignant, ulcerous Sore-Throat*, Bleeding and Purging, to any Degree at least, were utterly improper.

Tho' I really think our *Gentlemen in the Medical Way*, that practise in this Part of the Kingdom, are in general as careful, capable, and judicious as in most Parts of *England*, yet I took some Pains with them to make them comprehend the Nature of this singular and uncommon Distemper, and to distinguish it aright from some other reigning Disorders, that bore no small Resemblance to it.—And having desired them to attend to the small, quick, unequal fluttering Pulse at the Attack of this malignant Squinzey, though indeed it was sometimes full and undose, but even then heavy and unequal—to the sudden great Dejection of Spirits and Strength—perpetual Anxiety, Sighing, and great Oppression on the Præcordia—heavy, dull, watery, and as it were weeping Eye—pale, crude, thin Urine, though often turbid, like Whey — to the whitish, but commonly

moiſt Tongue, though conſiderably furred near the Root— to the ſhining, crimſon Colour of the Fauces, with interſperſed white, or aſh-coloured Spots or Blotches, with a nauſeous and ſometimes very fœtid Breath—to the ſcarlet or crimſon Efflorefcence (in ſome eryſipelatous, in others puſtular) on the Hands, Arms, Neck, Breaſt, *&c.* —Symptoms that attended this Diſeaſe, even on the very firſt Days; they diſtinguiſhed better, proceeded with more Caution, and with greater Succeſs.—I met with too many Inſtances before, of raſh, large Bleeding and Purging in this Diſtemper, nay, ſome were weak enough to tell me the Blood, they had drawn, was very *fine* and *rich*; *florid* truly I found it as *Lamb's Blood*, but ſo ſoft and looſe that you might cut it with a Feather, giving off little or no *Serum*, but having exactly ſuch an Appearance as when *Spirit of Harts-horn* is poured to the Blood, juſt as it runs from the Vein, which prevents its natural Coagulation.

I will not ſay but that, in ſome plethoric adult Perſons, ſome Blood may be drawn at the very Begining of this Diſeaſe, and I have in ſome few ordered it with Advantage, particularly as to the *anginoſe Symptoms*, and where the Difficulty of Breathing alſo was conſiderable; but I muſt ſay, a Repetition of the Bleeding to any conſiderable Degree is extreamly detrimental, where the firſt Blood eſpecially was of ſuch

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a loose and soft Texture; for the second or third will be always found a *mere sanious Gore*, as I have too often noted—nay, sometimes I have observed the first Blood drawn covered with a very *thin*, *whitish*, or *Lead-coloured Skin*, pretty tenacious; but immediately underneath it was a *greenish*, *soft Kind of Jelly*, and at Bottom a very loose, *black Crassamentum*, scarce at all cohering.— This Appearance of the Blood, however, as much forbids further Bleeding as that above described, and is mostly observed when there is a throbbing Pulse, and great Heat at the Access of the Distemper.— I profess I was myself not a little mistaken in two or three Cases at the first breaking out of this Fever; one of them I took for a true Peripneumony, but the Sore-Throat, Scarlet Eruption, Stench of the Breath, and even Petechiæ very soon coming on, too plainly convinced me what was in Truth the Disease.

I have very often met with this buffy, or sizy, Appearance of the Blood in the Begining of malignant Fevers, and yet Blood, drawn two or three Days after from the very same Persons, hath been quite loose, dissolved and sanious as it were.—Too many Instances of this very lately occurred to me amongst the *French Captives here*, who died by *Dozens* of a *contagious*, *pestilential Fever*, very frequently attended with Petechiæ, and a bloody Dysentery.— In this Fe-

ver (as well as all others) the *French Surgeons* bled of Courſe every Day, or at leaſt every other Day. — And I ſeveral Times ſaw the Blood of ſome of the *Officers* (thus treated) a mere *ſanious Gore* on the third or fourth Bleeding, though conſiderably ſizy at the firſt. — And yet ſo prepoſterous was their Practice, that, at the ſame Time they were ſo buſy with the *Lancet*, they *gorged their Patients with the ſtrongeſt Bouillon, that Beef, Mutton,* &c. *could make*, and this too though they were in a conſtant Delirium, were covered with black or purple Spots, and had their Tongues as black as Ink, and as dry and rough as a Pumice-ſtone.—I am very certain great Numbers fell a Sacrifice to this abſurd Practice.

This buffy Appearance of the Blood, at the very Begining of contagious, peſtilential Fevers, doth not invalidate what I have ſaid, in my *Eſſay on Fevers*, of the Effect of *contagious Effluvia* on the Blood in ſuch Fevers, but rather confirms it:—for though they tend to diſſolve, and actually at length do deſtroy the *Craſis* of the Blood, yet Perſons, of a very viſcid, denſe State of Blood, may be ſeized with a contagious, malignant Fever, and the Blood may appear very ſizy and buffy on Bleeding at the very *Attack*, but, notwithſtanding this, the Action of the *contagious Ferment* (if I may be allowed the Expreſſion) will more and more

dissolve the Blood, and at last render it a mere *sanious Putrilage*, and so it will appear on subsequent Bleedings. —— And therefore, where there is just Reason to fear a contagious Malignity in a Fever, we should proceed with the utmost Caution as to repeated Bleeding, especially as it will be constantly found, that the Pulse, as well as the Strength, sink vastly after the second or third Bleeding, and truly sometimes very surprizingly after the first.

But to return to my Subject.——Whenever I was called to Persons seized with this Malady, at the very Begining, I generally, instead of Bleeding, ordered a Clyster of Milk, Sugar, and Salt to be injected to unload the Intestines, especially if the Patient was costive. — But, when a Purging attends the Attack, a few Grains of *torrefied Rhubarb* with *Species è Scordio*, *Decoct. alb.* &c. are proper; and if the Diarrhœa is profuse, a Spoonful or two of *Decoct. Fracastorii Fulleri* may be frequently given, which is, in such Cases, a very efficacious Medicine.—If Nausea and Vomiting were urgent, I ordered a gentle *Emetic*, especially for Adults, which was so far from aggravating the Pain of the Throat, as might be imagined, that it generally greatly relieved it—nay, in Children it was often necessary to make them puke frequently with a little *Oxymel. Scillit. Essence of*

Antimony, or the like, otherwise the vaſt Amaſs of tenacious Mucus would quite choak them.

I then immediately put the Patient on a *ſaline Mixture of Salt of Wormwood*, or *volatile Salt of Harts-horn*, and *Juice of Lemon* with *Aq. Alexeter. Simpl.* to which was added *Pulv. Contrayerv. C.* with a ſmall Quantity of *Myrrh* and *Saffron*; or theſe laſt were given in a *Bolus*, with a few Grains of *Nitre*, if the Fever ran pretty high — the Addition alſo of a Grain or two of *Camphire* was very uſeful for the Adult, where the Stomach would bear it; when it would not, I uſed *Julep è Camphor.* or *Acetum Camphoratum* with *Syrup* of *black Currants*, Raſberries, or the like.—The ſecond or third Day, to the ſaline Mixture, or a temperate cordial Julep, I added ſome of my *Tinct. Cort. Peruvian. Alexipharmac.* which, at this Time of the Diſeaſe, I found greatly preferable to the *Bark* in Subſtance; as it much more tends to promote the Eruption of the Exanthemata, and doth not by far ſo much hinder the Coming on of Sweats, which at all Times of this Diſtemper are of the higheſt Service, provided they are gentle, uniform, and univerſal.— Indeed it was with great Difficulty the Sick could be brought to ſweat at all, but whenever moderate, equally diffuſed Sweats came on the third, fourth, or fifth Day, or even later, they were critical and ſalutary, the Urine grew immedi-

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ately more concocted, and forthwith deposited a very large Quantity of *Clay-coloured*, or *pale lateritious Sediment*, though before crude, thin, or limpid; and therefore I always endeavoured to promote them by soft, easy Diaphoretics, and plentiful Dilution with Barley-water, thin Whey, Gruel, Tea, or the like. — I do not remember I had one Patient miscarry, who fell into soft, easy, universal Sweats, tho' the Itching, that sometimes came on with them, was almost intolerable, but generally the Sweat soon abated the Itching; at least it constantly lessened the Fever; and the Purging (if there was any) immediately ceased; the Tumour of the Neck, Parotids, &c. subsided greatly also on the Appearance of a kindly plentiful Diaphoresis: The Sweats were commonly very rank and fœtid, and that even in Children.

I commonly gave *Elixir Vitrioli* with the *Tincture* of the *Bark* (except to very young Children) which is an excellent *anti-putrescent Alexipharmac*; and I frequently ordered the *Elixir* to be taken out of an *Infusion of a roasted Seville-orange* in *Claret*, or *red Port-wine and Water*, which is a very pleasant and not an ineffectual Composition.

There was an absolute Necessity of washing out the Mouth and Fauces very frequently — the *Gargle*, I commonly ordered, was a *Decoction of Figs*, *red Rose-leaves*, *Myrrh* and *Honey* in

in *rough Cyder*, and a thin *Mucilage* of *Quince-seeds* with Syrup of Raſberries, or black Currants; and a little *Tincture of Myrrh, per ſe*, and *Spirit of Vitriol*, was to be taken by Spoonfuls every now and then, eſpecially after *Gargling*. ——And I alſo directed the *Fumes* of *red Roſe-leaves*, *Chamomile-flowers*, *Myrrh*, and *Camphire*, boiled in *Vinegar*, to be drawn in with the Breath very often, as hot as the Patients could well bear it, which gave very great and ſpeedy Relief.

Though the Swelling of the Neck, parotid Glands, *&c.* would ſometimes come on ſo ſudden, great and violent, as to endanger a Suffocation, yet in general I took this external Tumour to be partly critical, and therefore endeavoured to promote it by *acrid Cataplaſms*, *Bliſters*, &c. nay I have ſeveral Times bliſtered the Throat from Ear to Ear with great Succeſs. —Theſe Applications are uſeful in common Squinzeys; much more ſo in this, where the Humours were ſo exceeding ſharp and malignant.

As there was frequently a very great Tenſion and Tumour of the Belly, and at the ſame Time alſo ſome Degree of a Suppreſſion of Urine, an *emollient Fotus* with ſome of the *Carminative Seeds*, or a few *Chamomile-flowers* boiled in *Milk* and *Water*, and a Clyſter of the ſame with *Salt* and *Sugar*, were neceſſary to promote

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the Discharge of Stool, Wind and Urine; which gave immediate Ease to the Bowels, and withall greatly facilitated the Respiration, by giving a more *free Play* to the *Diaphragm*. — Indeed if the Abdomen was very tense, and the Patient costive, about the fifth, or sixth Day, I generally gave a *Dose* of *Rhubarb*, *Manna*, or *lenitive Electuary* — and after that commonly the *Bark* in *Substance*; but I never so ordered it when the Belly was very tumid and constipated, nor until some Signs of *Coction*, or a begining *Desquamation* of the *Cuticle* appeared; for I found my *Tincture*, or a *Decoction of the Bark*, answer full as well, nay better, as causing much less Oppression on the Breast.— I now also used a *Kind of Resin of the Bark*, made with *Spirit of Wine*, which I much prefer to the common Extract, as it sits much lighter on the Stomach, and keeps much better; and therefore I think is more proper for an *officinal Medicine*.

However improper Purging might be at the Begining of this Distemper, gentle, easy *Cathartics*, as *Rhubarb*, *Manna*, &c. were necessary at the End to carry off the putrid Colluvies of the Intestines, which otherwise protracted the feverish Heats, and occasioned great Weakness, Want of Appetite, tumid Bellies, and great Obstructions of the Glands; nay I was often obliged to give repeated Doses of *Calomel* to

carry off the Swellings of the parotid and maxillary Glands, which otherwiſe frequently remained a long Time much ſwoln and indurated, and, at length, ſometimes ſuppurated:— Indeed I ſeveral Times found it neceſſary to rub them with a *Mercurial Unguent* before I could diſſolve the Tumours; *Calomel* was alſo further uſeful in deſtroying the *Worms*, with which a vaſt Number were at this Time eſpecially troubled.—But in general after a Purge, or two, the Sick ſoon recovered a keen Appetite, Strength and Spirits: Many however required frequent Purging, a Continuance of the *Bark*, *Æthiops mineral*, &c. for a conſiderable Time, and then a Courſe of Aſſes-milk, and an open Country-Air to prevent a waſting Hectic; of which ſome died eight, or ten, Weeks, after the Diſeaſe firſt ſeized them.

This was undoubtedly a *Fever* of the *malignant*, *peſtilential Kind*, in which the Blood became highly acrimonious, diſſolved, and putreſcent. That it was very greatly contagious no one doubts, as it very often infected whole Families, eſpecially the younger Perſons. —— And that this Contagion generated a very great Degree of Acrimony in the Blood is moſt evident from the Hiſtory of the Diſeaſe. —— I have elſewhere noted that Contagion acts in the Blood as Acrimony: Perhaps the *contagious Miaſmata* are only the highly exalted *Salino-*

sulphureous Particles and Vapours that exhale from the diseased infecting Body. — It is well known the Stench of putrid Carcasses, gangrened Limbs, the polluted, stinking Air of Jails, &c. destroy the *Crasis* of the Blood, and bring on malignant, pestilential Fevers; just as the putrid Sanies of a gangrened Limb, absorbed into the Blood, brings on a Fever of the same Kind.—— It is certain the *pestilential Effluvia* in the true Plague bring on the most healthy, in a very few Hours, a putrid Dissolution and gangrenous Disposition of the Blood — and truly this malignant Sore-Throat was in some Cases found very little inferior to it in Virulence, not only the Fauces, but the Lungs, Intestines, &c. having appeared gangrenous on Dissections, and the whole Mass of Blood turned into a putrid Gore.—— That an exceeding small Quantity of morbid Matter will infect the whole Mass of Blood is most certain from the Experiment of inoculating the Small-pox, in which it is found, that very much less than a Grain of the variolous Matter is fully sufficient to bring on that Distemper; nor is that surprizing when we too well know what dreadful Effects arise from the minutest Quantity imaginable of the Virus of a Viper, or mad Dog.

Though this malignant ulcerous Squinzey seemed to be a *Disease sui Generis*, yet it certainly

tainly had a very great Refemblance of the *Febris anginofa*, which I formerly defcribed in my *firft Volume de Aëre & Morbis Epidemicis*; and it is pretty remarkable, that fuch a Kind of Fever now alfo greatly prevailed up and down this Part of the Country; but indeed the anginofe Fever had very much more of an inflammatory Nature than the malignant Sore-Throat now treated of, and the Blood was commonly found much more denfe and vifcid in the former than in the latter, and of Courfe would much better admit of Bleeding. — But in Truth it may be in this, as in many other epidemic Diforders, particularly the Small-pox, Meafles, Scarlet Fever, *&c.*—the general Difeafe is greatly diverfified by the particular Conftitution of the Patients.— Thus the variolous Contagion in one of ftrong elaftic Fibres, and a very vifcid denfe Blood, brings on a very high inflammatory Fever,—in another of weak, lax Fibres, and a loofe diffolved Blood, a low, putrid, nervous Fever, not fufficient to protrude the Puftules in a kindly Manner, much lefs to bring them to a laudable Maturation.— In a Word, the high inflammatory Small-pox differ as much, or more, from the low malignant Kind, as the *Febris anginofa* from the *peftilential ulcerous Sore-Throat*. — How greatly doth the Scarlet Fever, defcribed by *Morton*, differ from that mentioned by *Sydenham*?—And indeed,

indeed, although the ſame ſpecific Contagion always produces the ſame ſpecific Diſeaſe, yet it greatly differs in different Perſons, and is to be treated accordingly. — There were certainly ſome of theſe ulcerous Sore-Throats with a pretty ſmart Fever, that bore Bleeding at the Begining with Advantage, and a much cooler Regimen was neceſſary in ſome than in others, — nay I was obliged in ſeveral Caſes to give Nitre with the Diaphoretics. —— But I muſt confeſs, in general, much warmer Medicines were neceſſary in this than in moſt other Fevers; and that too ſometimes when the Heat was very conſiderable, otherwiſe the Pulſe would ſink ſurprizingly, and an aſtoniſhing Anxiety, and Oppreſſion, immediately ſucceeded.——I have really been obliged to give ſuch warm *Alexipharmacs* in this Diſtemper (and that too many Times to very young Perſons) as nothing but repeated Experience could have induced me to order; as *Saffron*, *Camphire*, *Pulv. Contrayerv. Confect. Cardiac. Theriac. Andromach.* warm Cyder, mulled Wine and Water, *Tinct. Cortic. Alexipharmac.* &c. and this with a Succeſs that was well known, and juſtified the Practice.

The Word *Fever*, as promiſcuouſly uſed in the Practice of Phyſic, is not a little vague and undetermined.—There are ſome Diſorders, that paſs under that general Name, which are beſt

beſt cured even by raiſing the Fever, to inſtance only in ſome Quartan Agues and low, nervous Fevers.—And the malignant Squinzey, here deſcribed, is another Species of Fever, which evidently proves that all acute Diſeaſes are not to be treated merely with Evacuations, and cooling Medicines—proper Dilution is unqueſtionably uſeful in all Fevers, but certainly ſome require more than *Barley-water* and *Limonade*.—But I have already ſaid ſeveral Things on this Head in my *Eſſay on Fevers*; and ſhall at preſent only add a Word or two on the Uſe of *volatile alcalious Salts* in Fevers of the putrid peſtilential, or petechial Kind; in which I fear they are too often very improperly adminiſtered.

And here I muſt obſerve, that, in all Fevers of this Nature, the Blood is always found too much broken and diſſolved, and at length becomes highly acrimonious, and as it were ſanious and putrid. Whatever therefore tends to promote the Acrimony and Diſſolution of the Blood muſt be very apt to bring on ſuch Fevers, and encreaſe their Malignity, when they happen; but volatile alcalious Salts do both in an eminent Degree; for though they may retard the Putrefaction of the Fleſh of Animals, and even in ſome Meaſure of the Blood, out of the Body (and ſo will *Arſenic*, or *Sublimate-corroſive*) yet mixed with the Blood, whilſt actually under

der the Power of Circulation and the *Vis Vitæ*, they certainly hasten its Dissolution, and consequent Putrefaction; even mixed with the Blood out of the Body, or rather as it runs from the Vein, they quite destroy the Texture of the Blood-globules, nearly in the same Manner as the Poison of a Viper by dissolving the *Copula*, or Cohæsion of the component Particles; and the Blood of the most Robust (nay even the most buffy Blood of Horses, as I have often tried) thus managed never concretes, as usual, into a solid *Crassamentum*, and throws off its *Serum*, but remains ever after a loose, dissolved Gore, or Sanies.—Now let me farther observe, that when these volatile alcalious Salts (or Spirits) are taken in large Quantities, and frequently, even by Persons in Health, they are well known to bring on feverish Heats, Hæmorrhages, spongy bleeding Gums, stinking Breath, rank Urine, *&c.* Symptoms that sufficiently indicate a begining Dissolution, and Putridity of the Blood.

Moreover these broken, dissolved Blood-globules are very apt to enter into the serous and lymphatic Arteries, and there, not finding a free Passage through their Ramifications, stagnate and corrupt, and at length even corrode these exceeding tender Vessels, particularly when saturated with acrimonious Salts, which at the same Time also greatly irritate these very

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minute Canals, encreaſe the Heat, and ſo cauſe a more ſpeedy Corruption both of the Humours and Veſſels; and when the putrid *Lymph* and *Serum* is abſorbed into the Maſs of Blood, it greatly haſtens the general Corruption.

Volatile alcalious Salts, even applied externally to the Skin, very ſpeedily corrode and ulcerate, and it is certainly Fact, that given internally they heat vaſtly more, Quantity for Quantity, than the warmeſt *vegetable Alexipharmacks.*—And that, I think, not ſo much by encreaſing the projectile Force, and Circulation, of the Blood, as by cauſing an inteſtine Motion and Effervеſcence in it; for, by the moſt accurate Experiments, it is found that Solutions of the volatile alcaline Salts weaken the Tone of the Fibres, and Power of the Veſſels, and conſequently the *Momentum of the Blood* in the regular Courſe of Circulation.—And we eventually find, that, when the Blood abounds with very acrid Salts, the Pulſe becomes weak, ſmall, quick and fluttering, as in the highly ſcorbutic, and that corrupt, acrimonious State of Blood, which brings on the putrid Fever, antecedent to ſome Mortifications *ab internâ Cauſâ*, as they call it; in both which the Powers of Nature ſink greatly, and particularly the Strength of the arterial Vibrations, tho' they may encreaſe in Quickneſs, to compenſate for the Want of that natu-

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ral Vigour, and Fulness, which is observed in a free and firm Pulsation of an Artery duly filled with Blood, and properly actuated.—The extraordinary Bigness and Flaccidity of the Heart, that is commonly noted in scorbutic and pestilential Cases, are owing to the Weakness and great Relaxation of its muscular Fibres.—That peculiar Kind of biting Heat, that we commonly feel on the Skin of Persons labouring under putrid, malignant Fevers, seems to arise from the Abundance of acrid Salts and Sulphurs in the Blood, and its intestine Motion, and not from its increased projectile Force; for, on first touching the Skin, the Heat seems very little, if at all, above the natural, but, by continuing the Finger a longer Time on it, you are sensible of a disagreeable Scalding in it, which Sensation even remains in the Finger for some small Time after you have quite removed it from the sick Person: This *Doctor Pringle* hath judiciously noted in his excellent *Treatise on the Diseases of the Army*; and *Galen*, as he candidly observes, long before him.—This *Monsieur Quesnoy* calls *la Chaleur d'Acrimonie*, and very justly distinguishes it from *la Chaleur d'Inflammation*.—The Sensation, in Truth, is as different as touching a very hot Piece of dry Wood, and dipping your Finger into tepid Spirit of Hartshorn.—And I think this Observation evidently

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proves the Abundance of acrimonious Salts thrown off by Perſpiration in theſe very putrid Fevers. That peculiar burning Heat alſo, which the Sick often feel within, in ſuch Diſeaſes, though the external Parts of the Body are actually cold, probably ariſes from the ſame Cauſe.—And I cannot but think the Heat, obſervable in Fevers, preceding and attending Mortifications *ab internâ Cauſâ*, is generated by the Acrimony and inteſtine Motion of the Humours; not certainly from a rapid projectile Motion, for the Pulſe is then always found weak and ſmall, though quick. The ſurprizingly ſpeedy and great Stench, Swelling, and ſanious Hæmorrhages from all the Outlets of the Bodies of ſuch as die in putrid, malignant Fevers, are Arguments of the great inteſtine Motion, Rarefaction, and Acrimony of the Humours.—This was the Caſe commonly of thoſe that died of the malignant, anginoſe Fever above deſcribed. I have known the whole Body ſwell vaſtly, even to the Ends of the Fingers and Toes, with a cadaverous Lividity, though almoſt quite cold, and an intolerable Stench even before the Perſon was actually dead, Blood iſſuing, at the ſame Time, from the Ears, Noſe, Mouth, and Guts; and this too where the Pulſe had been very weak and ſmall, tho' exceeding quick, from the very Begining.—Was not this, from much Air, genera-

generated in the Blood by the inteſtine Motion, Heat, and Putridity, which are well known to generate Air? Is not the Emphyſema, obſervable in ſome Sphacelations, from the ſame Cauſe?

But to proceed, if we conſider the Generation and Nature of animal Salts, perhaps we ſhall ſee a little further into this Matter.—The ſtrongeſt vegetable Acids, we take in with our Food, are by the *Vis Vitæ* ſoon changed into a *neutral*, or a Kind of *ammoniacal Salts*, and by being longer and longer expoſed to the Action of the Veſſels, and Heat of the Blood, they more and more approach to an alcaline Nature, and at length would become actually alcaline, were they not diluted, waſhed off, and corrected by aceſcent Drink and Diet.—A Perſon that lives on nothing but mere Water, and Fleſh or Fiſh, without any Thing either acid or aceſcent, ſoon contracts a very great Rankneſs in all his Humours; he grows feveriſh, and at length his Blood runs into a State of Putrefaction.— The Blood of thoſe that die of Famine becomes highly acrimonious, which begets Fever, Frenzy, and ſuch a Degree of Putrefaction, as is utterly deſtructive of the vital Principles. A very melancholy Inſtance of which I once met with in a poor Gentleman, who obſtinately ſtarved himſelf to Death, and would not, for many Days, either by Force or

Perſuaſion, ſwallow any Kind of Food, or a Drop of Liquor.—He ſoon grew feveriſh, fluſhed in his Face, and very hot in his Head; his Pulſe was ſmall, but very quick; in four or five Days his Breath became exceedingly offenſive, his Lips dry, black, parched, his Teeth and Mouth foul, black, bloody, his Urine (when it could be ſaved) vaſtly high coloured, and ſtinking, as much as if it had been kept a Month; at length he trembled continually, could not ſtand, much leſs walk, raved and dozed alternately, fell into convulſive Agonies frequently, in which he ſometimes ſweated pretty much about the Head and Breaſt, though his Extremities were quite cold, pale, and ſhrivelled; the Sweat was of a very dark yellow Colour, and of a moſt nauſeous Stench.

It is certain alſo, that, if the animal Salts are not duly and conſtantly carried off by Urine, they are highly deſtructive, as in *Iſchuries*, for they continually advance more and more to an alcaline State.—It is not ſo much from an encreaſed Quantity, as the Acrimony of the Juices, that an obſtinate Suppreſſion of Urine becomes fatal; for I have known it very ſoon ſo, where the Patient hath had very large Diſcharges by Sweat and Stool during the whole Time of the Suppreſſion; particularly I remember, many Years ago, a *renal*

Ischury fatal to a corpulent Lady the eleventh Day from the Stoppage, though she was twice bled very largely, and kept purging the whole Time, and consequently did not die from a Redundance of Humours.—She made not a Drop of Urine from the Time of her Seizure to her Death, though she took very largely of *Cantharides* in Substance and Tincture, as well as many other Medicines, particularly large Doses of *Calomel*. Indeed, although I have frequently known *Cantharides* given with very good Effect in *Ischuries*, yet if they do not answer speedily, but are long continued in large Quantities, I fear they co-operate with the acrid Salts, and hasten the Death of the Patient, by bringing on a Delirium and Convulsions, as I have had the Misfortune to see more than once.

But to the Point in Hand.—The Formation of volatile alcaline Salts in the Body seems not much unlike the Production of them out of the Body.—Let any Kind of green Plant, even the most acid, be pressed together in a large Heap, it soon begins to heat, and gradually grows more and more hot (to such an intense Degree at length, if the Quantity be very large, as to break out into an actual Flame) and this Effervescence soon turns the whole Mass putrid, and the acid and essential Salts of the Plant into volatile Alcalies, which may be distilled

ſtilled from the putrid Maſs, and are in no Reſpect eſſentially different from the volatile alcaly Salts raiſed from animal Subſtances; both the one and the other are ultimately the Effects of Heat and Motion on the Salts of Vegetables, and the longer, and ſtronger, theſe are acted upon by the Force and Heat of our Solids and Fluids, ſo much the more are they exalted to an alcaline State, in which they are abſolutely unfit for the common Uſes of Life; nay, exceedingly deſtructive, if they greatly abound, as in very putrid, peſtilential, and petechial Fevers they unqueſtionably do; and therefore, I think, in ſuch Caſes, the Exhibition of volatile alcalious Salts to the Sick is adding Fewel to the Fire, for they certainly diſſolve or break the Globules of the Blood, and thence more ſpeedily bring on a general Putrefaction.— Theſe Salts, even applied externally to the Skin, ſoon excite a gangrænous Ulcer; and, when the Blood is largely ſtocked with them, it becomes a Kind of fiery Lixivium, which is greatly deſtructive of the *nervous Fibrillæ*, and *ultima Vaſcula.*—And this indeed would be more certainly, frequently, and ſpeedily the Caſe than it is, if the plentiful Uſe of Acids, Diluents, and ſoft mucilaginous Things, in Drink and Diet, did not prevent it, by waſhing off and correcting them; as we ſee Juice of Lemon and Vinegar quite take off their Acrimo-

ny; indeed thus managed they are, in many Diseases, turned into very useful Medicines.

Before I conclude, I beg Leave to insert the following extraordinary Case, as it is not altogether foreign to the Purpose.

I had lately under my Care a Gentleman of Fortune and Family, who so habituated himself to the Use of vast Quantities of the *volatile Salts*, that Ladies commonly smell to, that at length he would eat them, in a very astonishing Manner, as other People eat *sugared Carraway Seeds*. — A *Δριμυφαγεία* with a Vengeance! — The Consequence soon was, that he brought on a hectic Fever, vast Hæmorrhages from the Intestines, Nose, and Gums, every one of his Teeth dropped out, and he could eat nothing solid; he wasted vastly in his Flesh, and his Muscles became as soft and flabby as those of a new-born Infant; and broke out all over his Body in Pustules, which itched most intolerably, so that he scratched himself continually, and tore his Skin with his Nails in a very shocking Manner; his Urine was always excessively high coloured, turbid, and very fœtid.—He was at last, with great Difficulty, persuaded to leave this pernicious Custom, but he had so effectually ruined his Constitution, that, though he rubbed on in a very miserable Manner for several Months, he died tabid, and in the highest Degree of a *Marasmus*;— and I

am

am persuaded, he would have died much sooner, had he not constantly drank very freely of the most fine and generous Wines, and daily used large Quantities of Asses-milk, and anti-scorbutic Juices well acidulated with Juice of Seville-oranges, Lemons, *&c.*

But, after all, I am so far from thinking the *volatile Alcaly-salts* should be struck out of the *Materia Medica*, and condemning their Use in all Cases, that I am very certain they may be given with great Advantage in very many. — But, in Truth, I still except those above-mentioned.



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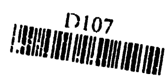
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